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Editorial

LEPROSY A VANISHING DISEASE

Leprosy continues to hold first place, in the lay mind at least, as the most terrible plague that devastates mankind. Though a comparatively rare disease in the temperate zone, yet tradition and citation combine to keep leprosy's terrors alive and virile in the imagination.

The medical profession welcomes any palliation of this frightful curse upon mankind. While a panacea may never be found yet anything legitimate that tends to develop towards such a godsend is always seized upon by science.

Upon the desert of despair of hundreds of thousands of sufferers, the hydnocarpus tree stands as the olive twig to the travelers in the ark. Oil extracted from the dried fruit of the hydnocarpus tree is the present dependence of the British Empire Leprosy Relief Association. This organization contends that this oil may be anticipated as the medium for stamping out, within the next decade, the plague of centuries.

India is accredited with the possession of a large proportion of the 4,000,000 lepers in the world.

In Africa, according to Sir Leonard Rogers, the extent of leprosy is held to be "appalling." As Sir Leonard has passed the last twenty years of his life there in leprosy research, this statement is of interesting import together with his finding that the "native negro recognizes the disease much better than the medical man."

Claim for this statement is made from discovery that although the African tribes are always raiding each other, and taking slaves, that "if a captive has a single spot of leprosy no native will touch him."

Sir Leonard is further encouraged by the results of news of the cure. Rapidly increasing numbers of natives come for treatment by the medical missionaries. According to Sir Leonard, in three months the British Empire Leprosy Relief Association sent out 100,000 doses; last

year there were 350 patients in Nigeria, and this year 840, and by the end of this year under treatment in Uganda it is expected there will be 2,000 lepers.

Though at first only advanced cases came to the attention of the doctors, out-patient treatment is given to those coming in early stages of the disease. "Whenever a new case is found everyone in that house is examined at least biyearly for five years. This precaution has permitted clearing up of about 80 per cent. of early cases before they have reached the infectious stage."

A new process of extraction of the oil is being perfected reducing the expense of manufacture by eighty per cent. Further widespread planting of the hydnocarpus tree is being considered, —indeed the campaign has begun,—so that there will be no diminished supply of the oil.

THE INCREASING CANCER DEATH RATE

Cancer proceeds steadily on its triumphal death rate. American optimism and courage, however, keep up what must eventually be a victorious fight. Statistical study of the mortality records of 119 American cities are breath-taking, but not altogether disheartening. Based upon such a study comes the statement from Dr. Frederick L. Hoffman that "the cancer record for 1926 is a dismal indictment of the failure of modern efforts to check the ravages of this dreadful affliction."

Dr. Hoffman is an expert statistician. Statistics, however, are nonmalleable; science and research are malleable, fluid and progressive. In time there is every reason to hope the exact status of cancer and its traits may be so isolated and explained that foundation for the elements of prevention and of cure may arise overnight.

This in the face of Dr. Hoffman's statement, "the vast amount of laboratory research on the one hand, and of cancer propaganda on the other seem to have had no measurable effect upon the cancer death rate. The enormous sums of money expended on cancer research seem thus far to have yielded not a fragment of evidence of real value toward the control and cure of the disease."

The grain of salt that must be taken with this pessimistic report is that possibly these statistical findings may have been made too early after the increases in propaganda and in expenditure of which Dr. Hoffman speaks. Interest deepened in the cancer situation, much of the stigma removed and a clearer recognition of conditions set forth, is it not probable that many cases are now diagnosed as cancer that previously and analogously had been more euphemistically spoken of both by practitioner and patient? Undoubtedly up until the last decade many a death from cancer was set down otherwise on the death certificate, and in perhaps far too many instances erroneously diagnosed, especially in obscure cases, wrongly named in the mind of the doctor himself. Cities always yield large cancer statistics, as it is natural to send cancer patients to cities for treatment, and often, when not referred they go of their own accord seeking aid.

It is definitely admitted that about thirty per cent. of all cancers are curable in the early stages. Surgeons annually report an increasing number of checked or cured cases of cancer. Not a village, certainly not a township, but what if a true census were made, could produce cases of cancer arrested by surgery or affiliated means.

Raised limit of racial longevity, of course, find the country with an increased number of persons who have attained "cancer age." To offset this there is both increased knowledge of surgical procedure and more general appreciation of the possibility of cancer, a realization that like vice cancer presents more than one face to its prey and the rescuers thereof.

THE CAUSE OF CANCER. THIS TIME FROM IMPERFECT PRODUCTS OF DIGESTION

All new theories deserve a hearing, with adoption regulated to follow only thorough investigation.

Dr. James B. Murphy of the Rockefeller Institute of New York City now holds that cancer is due to a ferment within the body rather than to a virus. He advocates that the cell proliferation in cancer is due to imperfect products of digestion or to some ferment stimulating excessive cell production. In the *London Daily Mail* of August 20, Dr. J. A. Shaw Mackenzie wrote to say that for years he has been directing all his research towards maintaining just such a theory. For twenty years, so Dr. Mackenzie

writes, he has associated cancer with ferment action but rather with defective action of the ferments of the pancreas and liver than to the direct action of the ferment.

Dr. Murphy, who was associated with Dr. Peyton Rous in 1912, in the production of a series of chicken tumors transmissible by filtered extracts and which formed the basis of the investigations of the Englishmen, Dr. Gye and Mr. Barnard, declared that he had succeeded in producing a protein fraction which caused tumors in fowls with great regularity and which might be regarded as the essential agent. In short, he claims that cancer is not caused by a virus as believed by Gye and Barnard, but by a ferment, that is to say, that the disease is produced within the body and not by an outside agent. Dr. Archibald Leitch of the Cancer Hospital, London, conducted experiments on similar lines to those of Dr. Murphy and came to like conclusions. However, there seems to be doubt as to the novelty of Dr. Murphy's discovery.

The view has been repeatedly expressed by Shaw Mackenzie that the cell proliferation in cancer may be due to either failure or upset of normal ferment action or to the presence of unusual enzyme or ferment action. Shaw Mackenzie, also, unlike Murphy, does not wholly rule out the possibility of a virus being concerned in the causation, but he does claim to be the pioneer in suggesting that cancer had to do with enzyme action.

GEORGIA WILL PUBLISH STATE HISTORY OF MEDICINE

The Medical Association of Georgia confronts the same task as that begun by the Illinois State Medical Society as a commemoration of its seventy-fifth anniversary.

Some years ago the A. M. A. asked for such action on the part of the different states. Georgia is about the twelfth to fall in line.

Dr. Allen H. Bunce, 139 Forrest Ave., N. E., Atlanta, secretary-treasurer of the association, is receiving data in case any of our readers have any Georgia data that would be of assistance.

As the Atlanta Journal, July 27, 1928, remarks: "Material forwarded to Dr. Bunch, secretary-treasurer of the association, will be carefully preserved, it is announced, and will be duly returned.

"A state whose annals are as rich as ours in noble leaders of this profession certainly should encourage the writing of its medical history. One of the great figures of colonial and revolutionary Georgia was Dr. Lyman Hall, of the Midway settlement, a signer of the Declaration of Independence and a tower of strength for patriotism. One of the immortals of the world of science is Dr. Crawford W. Long, who first demonstrated the power of anesthetics in surgery. One of the finest spirits of American literature was Dr. Francis Orray Tickner, author of *Little Giffen, of Tennessee, Virginians of the Valley,* and other rare poems. Many another honored name would shine from the pages of the proposed history. And many questions concerning our economic and social and political past would grow clearer in the light of such a book, for the path of the physician winds through all things human.

"The Medical Association of Georgia is heartily to be congratulated on having undertaken so important a labor of love. The Journal bespeaks for it the generous co-working of all who can aid, and wishes it abundant success."

HOSPITAL CARE HAS NOT INCREASED IN COST IN PROPORTION WITH OTHER NECESSITIES OF LIVING

The following editorial from a recent issue of the *Chicago Daily Journal* is extremely illuminating.

Are modern hospital rates excessive? The bureau of statistics of the labor department at Washington has just completed a survey of hospital conditions in the United States and has reached the conclusions that the cost of getting well has not risen in proportion to other living costs.

The maintenance expense of four representative Chicago hospitals was taken as a basis of comparison with the rates charged the public. It was found that the average cost to the hospital per day per patient was $2.83 in 1913 and $6.65 in 1926. Yet the average charge for a ward bed had but doubled, being advanced from $2 to $4, while the increase for private rooms was only 33 per cent. The average price increase to the public for all hospital accommodations was but 66 per cent., as compared with increased mainte-

nance costs of 135 per cent. A similar investigation among representative Pennsylvania hospitals showed that the charges to the patient had grown by 88 per cent. since the days before the war, while the institutions themselves were facing budgets 123 per cent. greater.

Efficiency in hospital management has cut short the stay of the average patient by three days, or from fifteen days in 1916 to twelve days in 1926, thus balancing the average cost of illness. A patient can now secure, at practically no greater expenditure, the same accommodations he enjoyed a few years ago during a much longer period of convalescence.

While the hospitals have been raising their rates considerably less than 100 per cent., educational costs have risen by 207 per cent. since 1916, the appropriations in cities for health and sanitation have been advanced 156 per cent. and the budgets of charity organizations are 114 per cent. greater than ten years ago.

The hospital faces a dual problem. It is a semipublic institution, with a certain obligation toward the community. This it strives to meet by an immense amount of charity work and often by adjusting its rates to fit the patient's pocketbook. At the same time it should pay its way. The public's duty is to coöperate in recognizing sickness costs as legitimate items of household expense and providing an emergency fund with which to meet them. The appropriation for sickness in the average family should be $100 a year, the federal survey shows.

SCARCITY OF PHYSICIANS IN RURAL COMMUNITIES IS NOT A WOLF AT THE DOOR, BUT A RAMPANT EVIL WITHIN. AND BOTH PUBLIC AND PHYSICIANS MUST CO-OPERATE TO COMBAT THIS SITUATION

Alarm felt by the rural population over the increasing shortage of available medical men is discounted by a certain percentage of economists who bring forward figures to assert that increased efficiency of transportation facilities keeps in proper ratio the decreasing numbers of medical men in rural districts. In fact, this contention proved more than a passing point of argument at the Minneapolis session of the A. M. A.

Casuists dwell upon the item that "Figures can prove anything." Sometimes, it must be confessed, the tendency of such proof is to achieve fatal results.

Truth is that the present cost of medical education, coupled with other involving economic factors, has brought about such an impasse between medical needs and medical supply as may easily be duplicated later, even in the larger communities.

Because the National Grange is the most drastically affected now by this dearth of medical men in the vicinage of its members, to this question, the National Grange is giving earnest and anxious attention. Coöperation has been promised and will be given, by the A. M. A. Facts are stubborn and the stubborn fact remaining is that this dearth of rural doctors is a symptom of a cause that is not going to be confined to any one locality, rather than a cause itself of circumscribed and isolated evil.

The plain, old-fashioned doctor who was the family confidant and the family cure-all, and the very savior sometimes of the home itself, fell by the wayside long ago in cities and large communities. Lay dictation and lay interference stepped in and before he knew it the general practitioner in metropolitan walks found his place usurped by endowed foundations and community welfare work.

Such socialistic invasions of the medical profession as have really brought astounding statistics to the eyes and ears of the most conservative and scientific and conscientious members of the profession arise in a way from the complete displacement, without competent substitute of the self-sacrificing pioneer, known as "the family doctor."

All over the land quacks and charlatans use this magic shibboleth to "put over" their nostrums and noxious practices. Why? Because "the old fashioned family doctor" held a place in the hearts and a niche in the works of men that has never been filled by anybody else. His departure from community life leaves a gap that must be filled and which it devolves upon the medical profession to fill in a way that is at once competent and scientific.

Says the Dean of one large medical school: "It is quite evident that the day of the old fashioned family physician, who received his pay

in axehandles and an occasional kind word of appreciation, has disappeared. The demands of the public today necessitate certain changes which cannot be made without financial return.

"There has never been a time within recollection when people in certain country districts did not have to go some distance to secure a physician. There is a disposition at present on the part of all of us to expect immediate service, and while we may not notice the change, it is more widespread than we realize.

One of the officers of the American Medical Association remarked that the cry about the scarcity of country doctors was not a new one. He said that the same plaint was made at the first annual session of his association, in 1847, when members present stated on the floor at the meeting that as they rode on their way through the country to Baltimore they observed that there were no physicians in the rural districts, while more than twice as many as were needed were to be found in the towns and cities.

"The growing tendency towards specialization was also mentioned in the letters received, together with the heavy financial outlay required in securing a medical education.

"With one or two notable exceptions, the medical leaders appealed to could see no way out of our present difficulties and had no solution to offer for the shortage of country doctors," says Fred Breuckman, Washington representative of the National Grange.

Further he says:

"The memorial adopted by the Grange makes it plain that the organization is not advocating any lowering of medical standards. But those who are in favor of a reform in medical education feel that what is required is more practical instruction which may be acquired in less time and with an expenditure of less money than under prevailing conditions.

"To the lay mind, it is most heartening to find that it is the opinion of many physicians of unquestioned repute and the highest standing that present medical education is not producing the most resourceful practitioners for ordinary service. In the opinion of these physicians it is producing practitioners who are dependent on hospitals and laboratories, while these facilities, according to authoritative medical opinion, are necessary in hardly more than 10 per cent. of illnesses and accidents. It is in the care of this 90 per cent. of illnesses and accidents for which independent, resourceful physicians are necessary that the rural communities are most in need."

While these comments from a lay organization directly feeling the shortage of the general practitioner are not of course applicable as a blanket appraisal of the situation, there can be no argument as to the facility with which these citations evoke serious, even anxious, thought.

The chain store octopus that eats up the small man in the small community must inevitably, through its own nature and the general scheme of natural progression, in time destroy also the small man in the large community. What is occurring now in medical economics in small communities must necessarily through cumulative concentration and centralization at no far distant date occur also in large communities. The process of elimination thus begun and well on its way can play no favorites, be no respecter of communities and means the practice of medicine by endowed foundations and tax supported institutions.

This, of course, is state medicine, the curse of scientific advance and ultimately the death knell of medical initiative, progress and efficiency. This means an ultimacy of no service to the general public whether rural or urban.

NOTICE

Members wishing to give papers before the section on medicine must submit their name and subject at once to the undersigned or to Dr. N. S. Davis, 952 N. Michigan Blvd., Chicago, Chairman of the Section on Medicine.

The papers must be submitted not later than January 15, 1929.

Signed. FRANK DENEEN, M. D.,
Secretary Section on Medicine.
Bloomington, Ill.

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DEAN IRVING S. CUTTER APPOINTED A MEMBER OF MEDICAL HISTORY COMMITTEE

Doctor Irving S. Cutter, dean of the Medical School at Northwestern University and a well known authority about medical historical matters, has accepted a membership in the Committee on Medical History of the Illinois State Medical Society. Engaged now in the completion of Volume II History of Medical Practice in Illinois, Doctor Cutter takes the place of Doctor C. M. Johnson who was killed in a recent accident. Doctor Cutter, who is nationally known, is busied at present in several biographies notably Ephraim McDowell, J. Marion Sims and other American celebrities appearing in international abstract of surgery. Doctor Cutter is a distinct addition to the personnel of the committee.

WOMAN'S AUXILIARY NEWS

AUXILIARY SUGGESTIONS

There are many reasons for a Woman's Auxiliary to the Medical Profession. Of course the social side is a very pleasant consideration for through the activities of the Auxiliary there will be established a closer relationship and better understanding among the physicians' families. Though I believe the most important reason is the service which we can give to the public, as well as to the profession, through learning something about the economic side of medicine.

Medicine has been slow in realizing that there is an economic side, which is closely allied to the scientific side, and now it is facing many economic problems. Through our Woman's Auxiliaries we can be enlightened as to the various problems by having speakers who will explain some of the present difficultes. Great inroads are being made into the private practice of the doctors, about which most wives are unaware.

Many well informed doctors and medical editors feel we are on the threshold of state medicine, and this would be disastrous to both the profession and the public alike. Yet some of our large women's organizations sometimes endorse certain bills and foster certain movements which will aid in bringing this about. In their willingness to help humanity they fail to see this paternalistic side. In these medical socialistic movements which the Profession oppose, the scales balance evenly, and that which will benefit the public will also benefit medicine, and vice versa. Sometimes the public loses sight of the fact that the opposition of the medical profession to certain seemingly laudable movements, is in the end for the welfare of the general public. How many doctors' wives stop to consider that this is true? Sometimes one might feel that we club women have been made the dupes of charitable organizations and social reformers. Let us investigate the charities which our clubs sponsor and aid. Some are simple pauperizing the public and encroaching upon the doctors' private practice. I am sure that our club women would not want to be an aid to state medicine. Our country should profit by the unpleasant experiences of other countries which have accepted state medicine.

Let us have speakers before our Woman's Auxiliaries who thoroughly know the dangers of legislation such as state medicine, Sheppard-Towner Bill. We certainly must acquaint ourselves with the dangers of a new bill which is to go before Congress and which is said to be much more vicious than the Sheppard-Towner Bill. Some women know what the Sheppard-Towner Bill is. MORE DO NOT.

It is very encouraging to me to hear from the Educational Committee of the Illinois State Medical Society that many Auxiliaries are asking for speakers, as I have suggested. I hope that I have made it known to all the Woman's Auxiliaries of the Illinois State Medical Society that the Educational Committee has a speakers' bureau and that they will furnish speakers gratis to any organization, as well as health articles for any newspaper or organization. Health news is of great importance to the public so this service should be very popular.

In talking before many auxiliaries, I have been surprised to find how many doctors' wives voted for the endorsement of the Sheppard-Towner Bill, by their various clubs. They have volunteered the information that their reason for doing so was that they did not know what it meant and supposed it was all right because the club board had recommended that it be endorsed. In most cases only the proponents of the bill were heard. Let us know what we are doing. There are a few large women's organizations which

favor this strongly, so we should make ourselves a power whose influence will be felt. If time permitted, I could cite two instances, where in each case, just one doctor's wife was responsible for the defeat of an endorsement of the Sheppard-Towner Bill by her club. Once she had courage to rise and talk against the bill, others did likewise and it was easily defeated. Wouldn't it be a good idea to see that our clubs had by-laws to the effect that both sides of any question must be heard before being voted upon, whether political, social, or what not? There are so many doctors' wives spread throughout the clubs that this could be easily accomplished. We are apt ofttimes to be persuaded or convinced of the wrong idea if we hear only one side of the question.

I was told by a hospital superintendent who goes very frequently to Springfield, that he meets many misdirected women lobbying for certain bills. He feels sure that they are anxious to work for the welfare of the people and if properly informed, would be working against these bills just as hard as they are working for them.

I have learned from legislators that the endorsement of bills by various clubs has great weight with them. They do not stop to consider that the vote does not represent the club as a whole, but in most cases just a small percentage of the club membership, for these bills are usually voted upon for endorsement at business sessions, where few members are present. I believe that it would be a good idea to have some open auxiliary meetings and urge the members to invite their lay friends, as well as doctors' wives who are not members, to come. These in the form of afternoon teas with interesting speakers would be attractive. Many women would be glad to know more about medical legislation. Even a little of this knowledge as a side issue, combined with an interesting talk on the "Romance of Medicine" or "Lives of Great Men in Medicine" as the main feature, would be enjoyable and instructive.

Let us know for whom we are voting when we go to the polls. There are many politicians who speak reproachfully of trained medical men and who are not in sympathy with the high standards of the medical profession. In our organizations as well, we might know just what viewpoints our candidates have. Particularly the Chairman of Public Health Committees should have the modern viewpoints of organized medicine.

I should urge that our members see that all medical journals are sent to the home and that they read these. There are many interesting and enlightening original articles, editorials, and correspondence. I am sure that these will stimulate an interest in the auxiliary. When there is auxiliary news, space will be given by the editor for that purpose. I should be glad to have news sent in from auxiliaries. It would be interesting for one county to know what the other is doing, and helpful as well.

I would suggest that you read particularly the last three editions of the ILLINOIS MEDICAL JOURNAL for they are chock full of articles concerning the economic difficulties confronting medicine at present. You will be sure to get a thrill if you are at all interested in the medical profession. I urge that every doctor's wife read "What If Nobody Cared," written by the very efficient chairman of the legislative committee of the Illinois State Medical Society, Dr. John R. Neal. Possibly reprints could be gotten upon request.

When hunting around for excuses for not becoming a member of the auxiliary, let us not say that we are too busy with other club activities, for this is the organization to which we should belong and to which we should give our strongest support.

MRS. G. HENRY MUNDT,
President.

A LETTER TO COUNTY OFFICERS OF THE WOMAN'S AUXILIARY TO THE ILLINOIS STATE MEDICAL SOCIETY

As a matter of record I am trying to gather some data on the Woman's Auxiliary.

I am asking all county officers to kindly send the names and addresses of their members, as soon as convenient. If at any time there is literature to be sent out, we should have all members' names. We hope to be able to send every one a copy of the next issue of The Journal of the Woman's Auxiliary. Any one wishing a copy of the first and only issue of The Journal may have it by writing to me or to the

state secretary. It is very interesting and shows the scope of the auxiliary work.

Will you kindly advise me as to what dues your organization decided upon? Have you collected any dues? May I quote Article VIII from the Constitution and By-Laws which says:

Each County Auxiliary shall pay dues to the State Auxiliary at the rate of ($1.00) per capita, of which twenty-five cents (25c) shall go to the National Association. Bills for dues shall be sent by the treasurer during January of each year to each County Auxiliary and are payable on or before the next April 1st. A County Auxiliary in arrears for dues shall not be entitled to representation at a meeting of delegates of the auxiliary.

Any one wishing a copy of the state constitution and by-laws may have one sent upon request. I should like to have each county send me a copy of their constitution and by-laws.

It would be interesting to know what type of meetings you are having and what is the average attendance.

There probably will be a contest for subscriptions to *Hygeia* announced very soon. It behooves our state to start immediately securing subscriptions. Illinois must not fail in this contest for we should like to win the prize as well as the honor, for securing the most subscriptions.

So appoint your Hygeia chairman and a large committee immediately. You will be apprised of the details as soon as they are announced. *Hygeia* is becoming a very popular magazine. It is being used by many school teachers for classroom work. It would be interesting for each county to see that *Hygeia* is placed in every school, library, and reading room. One state auxiliary has placed it in all club cars on outgoing and incoming trains.

I shall be glad to send to any one the very interesting report which was given at the National Auxiliary meeting in Minneapolis by Mrs. McGlothan, the National Hygeia Chairman of the Woman's Auxiliary.

If at any time the State Auxiliary can be of service to the County Auxiliaries, it will be pleased to do so. We should like to have a hearty co-operation of the auxiliaries.

May I ask for the favor of an early reply?

Very sincerely,

MRS. G. HENRY MUNDT,
President.

This letter is printed in the journal, hoping that counties which have organized without any assistance and which have not reported to the state, will read this. I have only the names of counties which I have organized. I should like a complete list. Will those counties kindly reply immediately?

SOME ACTIVITIES OF THE WOMAN'S AUXILIARY TO THE ILLINOIS STATE MEDICAL SOCIETY, AND A REPORT OF THE NATIONAL AUXILIARY MEETING HELD IN MINNEAPOLIS

The first annual state meeting of the Woman's Auxiliary was held in Chicago in June, during the time of the meeting of the State Medical Society. One day was given to the auxiliary from 11 a. m. to 3 p. m. Over three hundred attended the luncheon which was given that day at 12:30. Interesting talks were made by Dr. William Allen Pusey of Chicago, and Dr. Harold M. Camp, Secretary of the Illinois State Medical Society. We had the very great honor of having our most charming national president of the Woman's Auxiliary, Mrs. John R. Reynolds, address us. A splendid string trio entertained with music during the luncheon, and a jolly get-together of doctors' wives was seemingly enjoyed by all. We all hope to meet again and renew acquaintances at the next annual meeting.

The new officers elected for this year are:

President, Mrs. G. Henry Mundt, Chiago 7000 S. Shore Drive.

President Elect, Mrs. John R. Neal, Springfield.

1st. Vice-President, Mrs. Edward H. Ochsner, Chicago.

2nd Vice-President, Mrs. F. H. Pirnat, Chicago.

3rd Vice-President, Mrs. J. O. Cletcher, Tuscola.

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Ninth District, Mrs. Andy Hall, Mt. Vernon.

Tenth District, Mrs. Wm. J. Benner, Anna, Ill.

Just recently through the efforts of Dr. Edith

Lowry, the ladies of Kane County attended a dinner with their husbands. While friend husband addressed the doctors, I talked to the ladies and an organization was effected that evening. Dr. Lowry, who is chairman of the Educational Committee of the Woman's Auxiliary of the Illinois State Medical Society, says Kane County is going to be one of the "livest counties," so the rest I hope will make an equal effort.

Mrs. Morris Fishbein and your president were invited to address the Woman's Auxiliary of the Indiana State Medical Society at their annual meeting, which was held September 26th. The reports of the county chairmen were very inspiring.

I am sure that if all the doctors' wives could have been present at the national meeting of the Woman's Auxiliary in Minneapolis, they would have signed us as members immediately. The Woman's Auxiliaries of St. Paul and Minneapolis surely spent much time in laying their plans for the entertainment of the ladies. We were given lovely rides, teas, receptions, luncheons and dinners.

The annual auxiliary luncheon was attended by about six hundred. The Illinois Auxiliary was recognized by your president being asked to give a response to the address of welcome on this occasion. A great many states were represented by their president and many excellent reports were given by the various presidents and chairmen of committees. Short talks were given by several prominent medical men.

I had the pleasure of giving a talk at the annual meeting of the Minnesota State Auxiliary, which was holding its annual meeting at that time. Splendid reports were heard from the various counties.

This report may seem somewhat belated, but I feared to put it in during the summer months. Now that the auxiliaries are at work again, I hope they are getting in the habit of watching the ILLINOIS MEDICAL JOURNAL for auxiliary news. Some of these days we may have a journal of our own, as some of the state auxiliaries do have.

Will the doctors kindly call this auxiliary news to the attention of their wives?

MRS. G. HENRY MUNDT,
President.

7000 South Shore Drive.

Correspondence

FAITH CURE AT BEST A CONTRADICTION STILL

CHRISTIAN SCIENCE TO BE COMMENDED FOR COMPLETE TURN-ABOUT IN TACTICS AS TO CURE OF DISEASE

Publication of the following letter received from the editor of "The Christian Science Watchman" is of utmost interest to the medical profession.

If this letter states bona fide conditions it is doubly revealatory. It confirms what the profession, as well as a large proportion of the thinking laity and sage men of cloth have always contended: namely, that Christian Science is not a religion, nor a science, nor an efficient healing art, but really a lucrative white-collar trade.

Physicians, more than any other class of persons, regret to think of any human suffering pain without alleviation. It is at last nice to learn that *"In the personal experience of Mrs. Eddy there came a time when neither her own, nor her followers' unaided faith was sufficient to relieve her of serious suffering. Understanding the power of the faith of the majority of mankind in medical science, she decided to utilize it and gratefully availed herself of the services of reputable physicians on various occasions."*

THE CHRISTIAN SCIENCE WATCHMAN

20 Jackson Place N. W.
Washington, D. C.

October 16, 1928.

To the Editor: The tragedies that have been permitted in the name of Christian Science by its overzealous devotees have largely justified the widespread prejudice against it. The Christian Science Parent Church, the independent minority movement in Christian Science, is endeavoring to bring a new spirit of sanity and common sense into the practice of mental healing. It recognizes the unselfish, humanitarian labors of the medical profession in alleviating human suffering. It likewise recognizes the vital function of spiritual forces in relation to health. It is convinced that there exists a basis of coöperation on which medicine and religion may thrive together for the advancement of world health.

Since Mrs. Eddy's death, Christian Science practice has very largely become a commercialized faith-cure. The record of disease and death among Christian Scientists during the last few years is appalling. Because of a superstition that the use of a drug is an evil and the employment of medical aid tantamount to a confession that Christian Science has failed, the majority of the adherents of that faith turn to medical assistance only as a last resort, usually secretly and with the depressing conviction that they are committing a positive sin. Such an attitude tends to nullify the work of the physician and deplete the patient's mental capacity for recuperation. Frequently the doctor is called only when death is considered imminent, and to prevent, if possible, the embarrassment of an inquest.

These conditions have arisen from a misconception of Christian Science in its larger application. In order to prove to an incredulous world that the body can be healed by Mind, drugs were discarded during the early stage of the movement. Nevertheless, it is a recognized fact in Christian Science that a drug may be the medium through which the common faith and hope of the majority of mankind expresses itself. In the personal experience of Mrs. Eddy there came a time when neither her own nor her followers' unaided faith was sufficient to relieve her of serious suffering. Understanding the power of the faith of the majority of mankind in medical science, she decided to utilize it, and gratefully availed herself of the services of reputable physicians on various occasions.

In so doing, she was consistent with her own teaching on the relation of a minority's faith in mind-power to a majority's faith in material means. She was far in advance of her followers' practical application of Mind-Science. Had her example been intelligently followed by her students, Christian Science practice would today hold a higher place in the general estimation of the world.

The Christian Science Parent Church was organized a few years ago under the leadership of Mrs. Annie C. Bill. It has developed branches throughout Great Britain, America, Australia, and elsewhere. Its members have been recruited almost entirely from those who have resigned from the original Christian Science organization after they became convinced that the trend of thought within that body precluded further advancement of Mind-Science.

This organization maintains that the work of the Christian Scientist is limited to the teaching of spiritual truth, and to removing fear and other unhealthful moral conditions. Its members are forbidden by their Church by-laws to meddle in any way with medical or surgical practice, but must leave such work to those who are qualified and legally authorized for that responsibility. Neither shall a practitioner of this Church render his services unless both patient and attending physician request his aid.

Spiritual healing has a definite place in therapeutic practice. Therefore, in order that it may be utilized under such conditions as will keep it within its proper field and insure the maximum results, we bespeak the intelligent coöperation of the medical fraternity.

V. M. VICKERY,
Editor.

LEGISLATIVE ACTIVITIES BEFORE ELECTION.

PRE-ELECTION EDUCATION OF PROSPECTIVE MEMBERS OF LEGISLATURE THE PROPER THING.

The following letters to the medical profession of Illinois and to prospective members of the legislature was sent by the chairman of the legislative committee of the Illinois State Medical Society under date of October 10, 1928. The letter to the members of the Illinois State Medical Society is as follows:

Springfield, Ill., October 10, 1928.

To the Members of the Illinois State Medical Society:

The enclosed printed letter has gone forward to prospective candidates for the next session of the Legislature. It is surprising the amount of material that these candidates are receiving from the Up-lifters, the League for Medical Freedom, the different cults, masseurs, etc.

Frequently a candidate makes an error in promising his support to a measure simply because he has not previously been informed of the danger of such a law, and obviously the cults put up their side in a very pleading and fairly convincing manner to the uninitiated. The chiropractors employ a Chicago attorney by the year to carry on their battles, both in court as

well as in the Legislature, so your committee believes that it is necessary to send a bulletin, such as the one above mentioned, in order that the candidate may be advised that the Illinois State Medical Society opposes all efforts to lower the safeguards regarding the treatment of disease in the state of Illinois.

This office is exceedingly busy writing out the records of the different legislators relative to their attitude in the past regarding public health matters and the proper education of those who seek to be licensed to treat human ailment. It is indeed gratifying to read the number of letters that we receive from prominent and worthwhile legislators asking that their record be submitted to the doctors of their district.

All such communications, of course, are nonpartisan, and it has been my happy privilege, although a Republican by choice, to advocate the reelection of men who have fearlessly fought for decent medical laws in the Legislature, who are on the Democratic ticket.

We still get letters from a number of districts in which apparently the doctors are making no effort to ascertain the early impression that the candidates may have regarding the necessity for changing the Medical Practice Act, which, of course, is attacked at each session.

Your committee does not believe that it is necessary for physicians to become actively engaged in political controversies, but we do believe that it is a stamp of good citizenship to be sufficiently interested so that you may advisedly vote for the best man seeking election. Your decision may be greatly aided in this matter by a personal interview with the candidate with the idea of gaining information as to his type and character, as well as his pre-election promises, such as all candidates necessarily make.

There is an extreme danger in allowing matters to go on until some unnecessary law or privilege is granted to those who are manifestly unqualified to treat disease. It is reported that the California law permits chiropractors to do minor surgery. Personally, I do not know what minor surgery is. If a simple catarrhal appendix may be successfully operated on in a few minutes, and it takes two hours and one-half to do repair surgery on the tendons and fascia of the hand after lancing a felon, which operation would the average jury decide was minor surgery?

The election is on November 6 and is the opportunity for all legal voters to express their preferences regarding the character of the men who will be intrusted with the grave responsibility of passing the laws of the state.

Yours very truly,

J. R. NEAL, M. D.,

Chairman Legislative Committee.

The following is a copy of the letter sent out the same date to candidates for the General Assembly:

To the candidate for the General Assembly addressed:

Among the many problems that will be decided in the next Legislature are those which pertain to the public health.

In each session of the Legislature, for a great many years, there have been groups of drugless healers who attempt to gain recognition by special laws to favor their particular branch of the healing art. The 53rd General Assembly devoted much time to this perplexing problem, and, after a thorough deliberation, a special committee in the House and Senate drew up a measure which passed in the Senate without a negative vote, and in the House by a big majority.

The law was attacked by the drugless groups. The cases went to the Supreme Court and in five separate decisions the court held the act valid, declaring it a safeguard to the public health and that the minimum requirements were not too severe.

The Administrative Code of the state makes provisions for the Drugless Healers to have proper representation on the Board of Medical Examiners. There is now attached to the board a licensed osteopath and a licensed chiropractor, who examine the applicants. Properly qualified chiropractors are appearing before the board at each of the examinations and many of them have passed and have been duly licensed.

The National School of Chiropractic in Chicago, the largest school in Illinois, teaching chiropractic, has complied with the requirements in the law and is in good standing and its graduates are appearing before the Board of Examiners and those successful in passing the examination are being licensed.

The Palmer School of Chiropractic, located at Davenport, Iowa, refuses to bring its curriculum up to the requirements of the Illinois law. The head of that school refuses to admit that

a high school education is necessary before a college course, and also gives a course of instruction in his professional school very much less than the requirements of the Medical Practice Act, which have been held necessary by the Supreme Court of this state on five occasions. These facts can be verified by the Director of Registration and Education at Springfield.

The records of the Department of Education and Registration disclose the fact that among the seventeen or eighteen hundred Drugless Healers licensed in the state of Illinois there are practitioners of osteopathy, chiropractic, naprapathy, vitapathy, neuropathy, hydrotherapy, mechanotherapy, physcultopathy, magnetic healing and naturopathy. Does it look reasonable that the chiropractor should have a special law and a special board when the other "Drugless Healers" are not permitted to have a like privilege? Even if a separate board was provided for the above ten groups this would only be a beginning because there are nearly thirty well defined groups of Drugless Healers all with different names and with different ideas of treatment. As fast as a new group would come into Illinois and seek a special board it would be only consistent to grant it.

The Medical Practice Act of Illinois does not discriminate against any method of healing. It does not take into account the question of treatment or healing at all. It simply says that no man shall assume the grave responsibility of caring for the sick until he is familiar with the human body in health and in disease and knows its structure and its functions. Every man who undertakes to practice the healing art is presumed to know something about the anatomy (structure of the human body), physiology (functions of the body), the chemical compositions of the body fluids and tissues, bacteriology (the study of the small living organisms with which we are constantly in contact) and hygiene (the laws of sanitation and right living). The state assumes that without such fundamental knowledge, which is claimed in common by all so-called schools, no man should be allowed to assume the responsibility of caring for the sick. When a man has such knowledge he should be and is allowed under the state law to use any plan or system of healing that his judgment and conscience may dictate. The Illinois law makes one common standard for all who would treat the sick. No such thing as systems or schools of medicine or methods of healing are recognized.

What the chiropractor wants to do is to set up his own standards. He wants to disregard the fundamentals common to all schools and systems. He wants to reverse the state's attitude on the question of treatment, by adopting the plan of securing state recognition in the matter of treatment alone.

Treatment is a matter of opinion and follows as a natural sequence on knowledge of what it is proposed to treat. Men have always differed on the subject of treatment. It will never be possible to establish by law any system of treatment or to favor any school of medicine representing a special or exclusive "cure-all" plan of treatment. It is possible to establish minimum requirements in general education and in knowledge of the fundamentals common to all schools.

No man ignorant of common standards accepted by all schools should be allowed even to give advice to sick people or to treat anything. It is manifestly impossible to give good advice on a subject about which a man knows nothing and it is manifestly impossible for him to separate cases which he proposes to treat from the cases he does not propose to treat. The only fault the chiropractor can find with the Medical Practice Act is that the law requires him to have a general education, and then pass an examination on such branches as anatomy, physiology, chemistry, bacteriology and hygiene. There never has been and never will be an Allopathic Anatomy, a Homeopathic Physiology, an Eclectic Chemistry, an Osteopathic Bacteriology or a Physio-Medical Hygiene. Such would be as absurd as a Baptist Algebra, a Methodist Geography or a Presbyterian Grammar.

The question that the legislator must necessarily decide is not one favoring medical men, chiropractors or any other group, *but the big question as to protecting the public's health against men incompetent to diagnose disease.* It is just as important to know what not to do as it is to know what to do to treat any diseased condition. Probably it may be admitted that the chiropractor does no particular harm on cases that are not of an organic nature, but the efficacy of his therapy is not the debatable question at this time. It is merely one of minimum education and the Medical Practice Act of 1923, which has been upheld as being constitutional by the

Supreme Court of Illinois, certainly has the most liberal requirements for the Drugless Healer and for the chiropractors. For the chiropractor to claim that only chiropractors are qualified to examine their applicants in anatomy, physiology, etc., is an insult to the intelligence of the members of the General Assembly. Treatment may differ, but the human body does not and the mere coining of euphonious names to certain anatomical parts does not change the basic understanding of the human body.

We sincerely trust that you will give this interesting subject careful consideration before pledging your support for or against any proposed legislation relative to the public health.

JOHN R. NEAL,
Chairman Legislative Committee,
Illinois State Medical Society.

VOLUNTEER HEALTH ORGANIZATIONS ARE CONTRIBUTING TO THE TENDENCY TOWARDS STATE MEDICINE.

Springfield, Illinois,
October 19, 1928.

To the Editor: During the past summer I visited Poland for the purpose of looking over the general public health problems and especially the tuberculosis problem of the enormous Anaconda Copper Company interests. The company is responsible for the material welfare of about 125,000 people.

As you of course know, Poland is entirely organized under a system of health insurance with most of the physicians employed with meager salaries in life time jobs. The result is, of course, the smothering of all medical initiative and the situation is deplorable.

The very interesting feature of the situation is that the control of all medical affairs by general and local government and by the government controlled insurance companies, results in the stamping out of all volunteer health activities and seriously impedes the ordinary measures which would be taken by a large corporation for the protection and care of their employes. There are practically no private physicians.

It has occurred to me that a brief article on this situation might be timely for the ILLINOIS MEDICAL JOURNAL and I should be very glad to prepare it if you care to have me do so. I think that you are convinced that volunteer health organizations are contributing to the tendency toward state medicine. It is interesting to find in Poland that state medicine, when it is finally obtained, absolutely abolishes and strangles out these very volunteer health organizations.

I believe it is an angle which has not been given emphasis or publicity.

GEORGE THOMAS PALMER, M. D.

THE UNIVERSITY OF ILLINOIS DOES NOT INTEND TO ENTER INTO THE PRACTICE OF MEDICINE.

Chicago, Illinois,
October 23, 1928.

UNIVERSITY OF ILLINOIS
COLLEGE OF MEDICINE
Congress and Honore Streets
Chicago, Illinois.

To the Editor:

In the August issue of the ILLINOIS MEDICAL JOURNAL appeared a leading editorial entitled "Is the University of Illinois Intending to Enter Into the Practice of Medicine?" There is the intimation in this title and in the body of the editorial that the university intends to engage in state medicine.

May I at once answer this query by stating emphatically that the University of Illinois has not intended and is not now intending to practice state medicine.

The president of the university is on record in the columns of the JOURNAL as being opposed to state medicine. As an administrative officer of the college and as a citizen I should personally oppose any move in this direction. I do not believe in it.

Practically all the clinical members of the faculty of the college are engaged in private practice. They are opposed naturally to anything that even suggests the practice of medicine by the state. Not a word in favor of state medicine have I ever heard from a faculty member.

As to the transfer of the hospitals from the State Department of Public Welfare to the university, this suggestion first came from the governor and during the special session of the Legislature last spring was advised by the governor on his own initiative and incorporated in his message. I believe that from the standpoint of education, administration, economy and efficiency, this transfer should be made. As a business proposition it is a rational arrangement.

Attention is called to the fact that the research and educational hospitals are strictly charitable institutions for the poor of the state. No charges whatever for services are allowed. In the Out-Patient Department or Dispensary only small nominal fees are charged for admission, drugs, etc., as was done for years by the old College of Physicians and Surgeons on Honore Street and is being done by practically all other free dispensaries. These small fees do not by any means cover the cost of maintaining the dispensary.

Every effort is made to limit the services of the dispensary and the hospital to the needy poor. All patients sign a statement to the effect that they are charity cases. We cooperate with the United Charities and other agencies to prevent the abuse of charity and we are willing and anxious to cooperate with medical organizations in this regard. Pay cases are not needed and are not wanted. Abundant material for teaching and study is available without them.

The University of Illinois cordially invites the investigation of its methods and practices in the operation of the out-patient department and in connection with the services which it renders to the hospitals with which it is associated.

I am asking you to publish this statement in the editorial columns of the ILLINOIS MEDICAL JOURNAL. I do this, believing that the above facts will be of value and aid to the readers of the Journal in connection with the solution of the many medical problems of the State of Illinois. I do it also knowing of your fairness in presenting all phases of matters of this kind before the profession and the public for their consideration.

Assuring you of our earnest and sincere cooperation in these matters, I am,

Yours cordially,

D. J. DAVIS, *Dean*

PRESIDENT KINLEY, PRESIDENT OF THE UNIVERSITY OF ILLINOIS, DOES NOT BELIEVE IN STATE MEDICINE IN THEORY OR IN PRACTICE

At the meeting of the Dad's Day Association at the University of Illinois on Saturday, October 20, Dr. Kinley made substantially this statement:

"You may hear erroneous reports that the University of Illinois has in mind a plan to practice state medicine. I want you fathers of students in our university to understand that these rumors or reports are without any foundation whatever. We do not believe in state medicine, in theory or in practice, and as long as I am connected with the university there will be no deviation from this program."

Dr. Kinley was talking to his audience about the problems of the university, among which he mentioned the lack of proper hospitalization facilities for the students at the University of Illinois Medical College in Chicago.

MAYO CLINIC DESIRES BACK VOLUMES OF THE ILLINOIS MEDICAL JOURNAL

Mayo Clinic, Rochester, Minn.

To the Editor: October 12, 1928.

We should greatly appreciate it if you could supply us with the numbers of the "ILLINOIS MEDICAL JOURNAL" which I am listing below. We are trying to complete our volumes for binding and we lack these numbers. Kindly send them to the Mayo Clinic Library, Box 482, Rochester, Minnesota.

Volume 1-6 inclusive, all numbers.
Volume 7:1905: numbers 2 and 6.
Volume 8:1905: numbers 1, 2, 3, 4 and 6.
Volume 9:1906: number 1
Volume 10:1906: numbers 4, 5 and 6.
Volume 11:1907: numbers 1-6 inclusive.
Volume 12:1907: numbers 2-6 inclusive.
Volume 13-15: 1908-1909: inclusive, all numbers.
Volume 16:1909: numbers 1, 3, 4 and 5.
Volume 17:1910: number 1
Volume 20:1911: number 6.
Volume 21:1912: numbers 1, 2, 4, 5 and 6.
Volume 22:1912: numbers 1-6 inclusive.
Volume 23:1913: number 4.
Volume 27:1915: number 2 and 6.
Volume 28:1915: number 3.

NOTE: Inasmuch as back numbers of the Journal will in all likelihood come from several sources we request that the volumes be forwarded directly to the editor, 185 N. Wabash Avenue, Chicago, where the collection can be checked to see that the order has been fully taken care of.

BUREAU OF SCIENCE LIBRARY, MANILA, PHILIPPINE ISLANDS, DESIRES BACK NUMBERS OF THE ILLINOIS MEDICAL JOURNAL

The Bureau of Science Library, Department of Agricultural and Natural Resources, Manila, Philippine Islands, desires back numbers of the

ILLINOIS MEDICAL JOURNAL as follows:

Vol. 25, No. 1, 2, 1914.
Vol. 26, No. 5, 1914.
Vol. 27, No. 1, 1915.
Vol. 29, No. 2, 3, 1916.
Vol. 30, No. 2, 6, 1916.
Vol. 31, No. 1, 5, 1917.
Vol. 32, No. 1, 3, 5, 6, 1917.
Vol. 42, No. 1, 5, 1922.

NOTE: Kindly forward Journals to ILLINOIS MEDICAL JOURNAL, 185 N. Wabash Avenue, Chicago, Illinois, where they will be redirected to the magazine specialists in Boston who make the reequest.

WHY BIRTHS SHOULD BE REGISTERED

There is hardly a relation of life, social, legal or economic, in which the evidence furnished by an accurate registration of births may not prove to be of the greatest value, not only to the individual but also to the public at large. It is not only an act of civilization to register birth certificates but good business, for they are frequently used in many practical ways:

(1) As evidence to prove the age and legitimacy of heirs.

(2) As proof of age to determine the validity of a contract entered into by an alleged minor.

(3) As evidence to establish age and proof of citizenship and descent in order to vote.

(4) As evidence to establish the right of admission to the professions and to many public offices.

(5) As evidence of legal age to marry.

(6) As evidence to prove the claims of widows' and orphans' pension law.

(7) As evidence to determine the liability of parents for the debts of a minor.

(8) As evidence in the administration of estates, the settlement of insurance and pensions.

(9) As evidence to prove the irresponsibility of children under legal age for crime and misdemeanor and various other matters in the criminal code.

(10) As evidence in the enforcement of law relating to education and to child labor.

(11) As evidence to determine the relations of guardians and wards.

(12) As proof of citizenship in order to obtain a passport.

(13) As evidence in the claim for exemption from or the right to jury and military service.

OLD CHINESE WORKS REVEAL DRUG LORE

Chinese physicians of five thousand years ago knew the uses and physical reactions of numerous drugs of which the physicians of the western world are only now learning, according to the findings during the course of the translations of Chinese medical works by Michael J. Hagerty, translator for the United States Department of Agriculture.

"Ma Huang," known to western scientists as ephedrin sulphate, a recently developed preparation for the treatment of bronchial asthma, hay fever and rhinitis, has been used in China for more than five thousand years, and is first mentioned, Hagerty has found, in the ancient materia medica of Emperor Shen Hung, who reigned from 2737 to 2698 B. C.

In the course of Hagerty's translations, its use as a cure for colds is most commonly cited. Other uses for "ma huang" were in treating or curing diseases of the "five internal organs," which to the Chinese physician of early days were the kidneys, spleen, liver, heart and lungs; to cure diseased armpits and breasts, to stop "the desire to vomit," or to induce or prevent perspiration—different parts of the plant being used for the purpose in the last case.

Colds were broken up by its use in a broth. An ancient prescription translated by Hagerty recommends its use "in the epidemic of fever due to change in weather, just as it arises on the first or second day."

The prescription, compiled during the T'ang dynasty, or between 618 and 905 A. D., advises the patient to "take one large ounce of ma huang, remove the joints; take four pints of water, boil together and remove the top scum; boil down to two pints and remove the dregs; take one spoonful of rice and beans and make a gruel. Before using the broth take a warm bath and afterward eat the gruel, put on a thick bed covering and when the perspiration comes forth there will be a cure."

Ephedrin, the active principle of ma huang, was first isolated in impure form in 1885, but it had not been dealt with completely in the Occident until 1924, and its uses are now becoming generally known. The Department of Agriculture is making a thorough study of the drug with a view toward encouraging its cultivation. It is known to grow wild in sections of California and Nevada.—*U. C. Clip Sheet.*

TUBERCULOSIS IN ILLINOIS

The state board of health's report on the tuberculosis death rate in 1927 shows Jacksonville to have had the highest death rate of the year—310.5 per 100,000, but that is not to be taken, of course, as the death rate of Jacksonville itself, but of Jacksonville plus various institutions there. Lincoln, also with state institutions, had a death rate of 182.5 per 100,000, and Cairo had a death rate of 153.8. Chicago came as low as 82.7 per 100,000, but the lowest rate of any of the reporting cities was that of Moline, with 17.1. The next best record was made by Pekin, with 21.5, and the third in the list was Evanston, with a death rate of 23.7 per 100,000.

A SELF-ELIMINATING PROFESSION

The medical profession is the only one where good and efficient work tends to reduce the prosperity of those in it. The plumber does a good job, but corrosion is his ally and soon he must come back to repair the pipe he installed last year. The lawyer wins the case, yet paid for writing up the agreement, and makes more work for himself by writing it in such a way that, in case of dispute, he alone can interpret what he has done.

But the good and worthy doctor cheats himself

every time he does a good job. He improves the sanitary system of a town—and loses a few hundred potential typhoid cases. He discovers, as Pasteur did, the germ theory, and immediately reduces the number of his future patients.

All of which is good, right and proper, and in perfect accord with the noble and high aims of the profession. But doctors tell us it is getting tougher and tougher every day to make a living, to say nothing of a competence, in a field where good work cuts down the chances for future livelihood.—*R. & C.*

AMMONIUM O-IODOXY BENZOATE IN ARTHRITIS

Dr. Millard Smith, of Ann Arbor, Mich., in *New Eng. J. Med.*, July 19, 1928, gives a resume of his results from the treatment of arthritis with ammonium o-iodoxy benzoate during the past 2 years. Of 65 patients, who had received at least five intravenous injections of the drug, 24 were markedly improved and 12 partially relieved. Those who were not relieved were afflicted with constipation of long standing but no focus of infection could be found. Such patients are probably absorbing toxins from their gastrointestinal tracts.

No patient in whom the only focus of infection was found in the teeth, tonsils, nose or sinuses failed to obtain marked improvement from the drug.

Dr. Smith thinks that, in the case of patients weighing less than 100 pounds, the initial dose should not be more than 0.3 Gm., nor subsequent doses larger than 0.7 Gm. Patients above this weight may be started on 0.5 Gm. and usually tolerate 1.0 Gm. subsequently.

Auxiliary physical therapy measures are strongly favored.

LEAD TREATMENT OF CANCER

At the International Conference on Cancer held at London, July, 1928, reported in *Lancet*, Aug. 4, 1928, the consensus of clinical opinion regarding the efficacy of the Blair Bell colloidal lead therapy of cancer was rather against this therapeutic method. In St. Bartholomew's Hospital, London, and in the London Cancer Hospital the reports, after a fair trial of the method, were distinctly unfavorable. On the other hand, some favorable results were observed in Birmingham, England, and in Paris, France.

The general conclusion reached by the Conference was to the effect that lead treatment of cancer had not yet reached the stage of practical therapeutics for the average physician, but that experimental work in this therapy should continue with a view to the discovery of a lead compound less toxic in its effects than those now used.

Dr. H. J. Ullman, Director of Cancer, Research of the Santa Barbara Cottage Hospital, in *Radiol. Rev.*, July, 1928, states that orthophosphate of lead had essentially the same effect on tumors as has colloidal lead and is much less toxic.

EPHEDRINE IN SPINAL ANESTHESIA

Dr. H. L. Wehrbein of the Urological Service of Bellevue Hospital, N. Y., in *Brit. J. Anesthesia*, April, 1928, says that spinal anesthesia has become the most frequently employed method of anesthesia in their urologic work, but that the alarming drop in blood-pressure which often occurs is a drawback. Since trying ephedrine as a stimulant it has solved the problem to a large extent.

During one year they have used ephedrine in over 300 cases of spinal anesthesia. At first it was used prophylactically in all cases of low blood-pressure. But it was found that there was no safe minimum and it is now the adopted policy to give 50 mgm. of ephedrine, subcutaneously, in all cases, five minutes before the spinal anesthesia is begun. They also tried a few times to counteract an alarming blood-pressure drop after spinal anesthesia by intravenous injection of ephedrine. This was strikingly successful.

The average drop in blood-pressure after spinal anesthesia is 10 to 30 mm. within 15 minutes; the average drop in 30 consecutive medicated cases was nil.

Ephedrine is an efficient drug for the maintenance of blood-pressure during spinal anesthesia.

TRYPARSAMIDE IN PARESIS

Owing to its penetrability to deep-seated foci, tryparsamide is known to act very favorably in spirochetal infections of the central nervous system.

In a paper (soon to be published in *J. Nerv. and Ment. Dis.*) Drs. R. C. Jaenike and G. W. Forman of the State Hospital, Osawatomie, Kansas, report their findings in a series of 100 frank paretics, treated by tryparsamide, over a period of three years. Mercury injections were given in conjunction. The 100 patients received an average of 34.6 injections of 3 Gm. each of tryparsamide. Five (5 per cent) of these patients have been considered as cured; 38 (38 per cent) showed improvement, both mentally and physically; 15 of these have left the institution and are behaving normally; 2 (2 per cent) patients have improved clinically, but not mentally; 34 (34 per cent) are either stationary or have declined.

The best results are in those patients whose symptoms were less than a year in duration at the time of admission, and in those with the manic type of symptoms.

In 35 patients, the spinal gold chloride curve test was reduced from paretic to tabetic type; in 6 cases the curve became normal.

In 6 cases, subjective eye symptoms appeared and the treatment was discontinued.

STRONTIUM LACTATE IN TETANY

Continuous oral administration of strongtium lactate prevents the development of tetany in thyroparathyroidectomized dogs. Such dogs adapt themselves to the loss of the parathyroids and recover.—W. W. Swingle and W. F. Wenner, in *Am. J. Physiol.*, Jan., 1926.

Original Articles

URETERAL STRICTURE*

BUDD C. CORBUS, M. D.
CHICAGO

The subject of urinary drainage is foremost in the minds of modern urologists. The urinary tract in man may be crudely compared to the modern installation of plumbing. As long as there is free and unobstructed drainage the plumbing works satisfactorily, but if the drainage becomes obstructed the outflow is immediately interfered with.

Man's urinary drainage system extends from the kidney to the external urethral orifice and roughly comprises the secretory and excretory portions of the kidney; a small sac, called the kidney pelvis, is connected by a tubular system, the ureters, to the bladder, and extends to the external orifice by means of another tube, the urethra.

The pioneers in urology were familiar with stricture of the urethra. In recent years volumes have been added to our knowledge of vesicle neck obstruction. Except for a congenital narrowing at the ureteropelvic junction, of the ureters, the upper portion of the urinary system

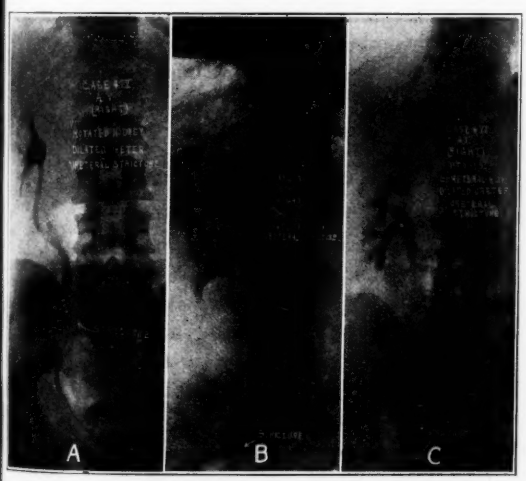

Fig. 1.—*A*, case 4 right rotated kidney; dilated ureter; ureteral stricture. *B*, case 5: right ptosis; ureteral kink; ureteral stricture. *C*, case 6: right ptosis; ureteral kink; dilated ureter; ureteral stricture.

was entirely overlooked. This in a measure was due to our indefinite knowledge of the anatomy of the ureter, and our conception of the cause of upper urinary tract infections.

The evidence found for the conception of ureteral stricture as a clinical entity was obtained for the most part by pyelographic and cystoscopic study, the latter by means of the wax-bulb "hang" method of Hunner. This evidence has been further substantiated by the autopsy report of Goldstein and Carson and more recently by Schreiber, in a paper entitled "Ureteral Stricture, its Anatomical and Pathological Background." His conclusions, based on the pathological, anatomical, and clinical data in 100 consecutive autopsies, are as follows:

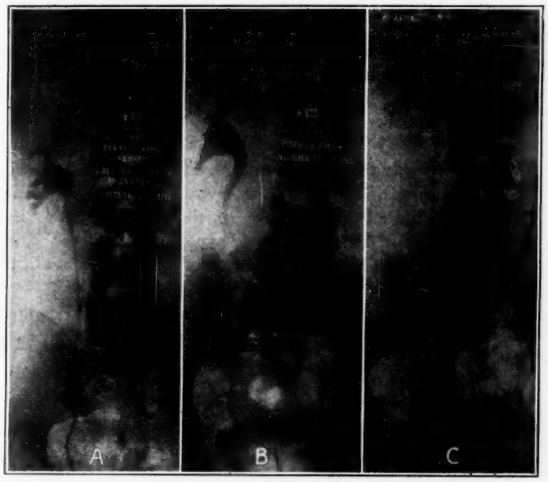

Fig. 2.—*A*, case 13: right beginning hydronephrosis; beginning dilatation of ureter; ureteral stricture. *B*, case 14: right rotated kidney; multiple strictures. *C*, case 15: right hydronephrosis; dilated ureter; ureteral stricture.

1. Stricture of the ureter does exist as a definite pathological entity.

2. A 12 per cent. postmortem incidence of ureteral stricture or stenosis corroborates the great number of ureter strictures or stenosis reported clinically.

3. Latent symptomless hydro-ureteronephroses due to ureteral stricture or stenosis are of relatively frequent occurrence, as is evidenced by a postmortem incidence of 10 per cent. in our series.

4. Ureteral stricture as a localized, intrinsic, inflammatory process in the ureteral wall, metastatic in character, due to focal infection, apparently either does not occur, or is relatively extremely rare as compared with ureteral strictures or stenosis of other origin.

5. Ureteral stricture or stenosis is found most frequently in the pelvic ureter, in a zone about 2 to 6 centimeters up from the ureteral orifice.

6. As prime etiological factors in the pathogenesis

*Address before the Chicago Urological Society and Evanston Branch of the Chicago Medical Society.

of ureteral obstruction due to stricture and stenosis we would emphasize in the order named: (a) congenitally accentuated narrowing of a congenital physiologically narrow site; (b) extension of inflammatory processes into the ureteral wall from adnexal disease with and without thrombophlebitis, and advanced chronic cystitis; (c) the occluding kinking power of crossing anatomical structures, namely, the vas deferens in the male and uterine artery in the female.

7. Caution is necessary in the interpretation of the physical signs obtained by the wax-bulb hang method of Hunner, especially in that very important region 2 to 6 centimeters up from the ureteral orifice, for in this region we find numerous physiological sites of narrowing and increased density of the ureteral wall, namely, (a) the juxtavesical zone; (b) the iliac zone; (c) the ligamentum latum region, the site of crossing of the uterine artery; (d) the vas deferens region, the site of crossing of the vas deferens; (e) the site of the obliterated hypogastric artery; and (f) the so-called "valve formation" in the juxtavesical region.

I am not in accord with Schreiber's statement in regard to focal infection. I believe that acquired ureteral stricture in many cases is due to focal infection, either recent or remote, from which the bacteria are carried to the kidney by means of the blood stream and an actual, localized, intrinsic inflammatory process is produced in the ureteral wall by the continuous passage

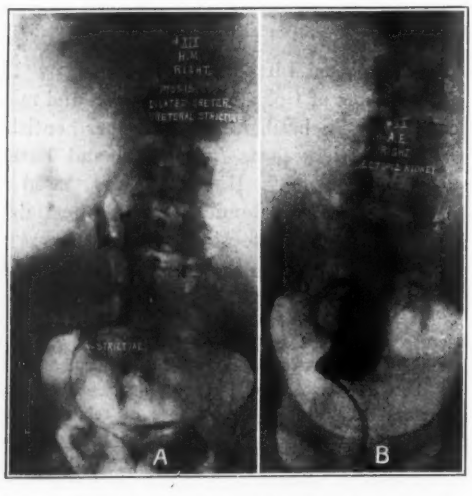

Fig. 3.—*A*, case 19: right ptosis; dilated ureter; ureteral stricture. *B*, case 20: right ectopic kidney.

of infected urine. Clinically I have often seen this process continue and be aggravated by ureteral dilatation only to subside upon the removal of the foci of infection.

Definition. — According to Hunner, ureteral stricture is an intrinsic disease of the ureteral wall, resulting in narrowing of the lumen, which leads to varying degrees of stasis in ureteral drainage.

Etiology.—I am in accord with Rathbun, Tolson, and the already large group of urologists who have written on this subject, that infection,

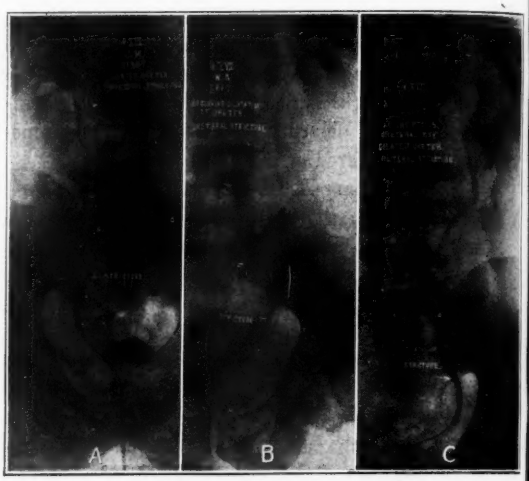

Fig. 4.—*A*, case 16: right dilated ureter; ureteral stricture. *B*, case 17: left beginning dilatation of ureter; ureteral stricture. *C*, case 18: left slight ptosis; ureteral kink; dilated ureter; ureteral stricture.

either recent or remote, is the cause of ureteral stricture in a large group of cases. However, there is no question that trauma occasionally plays a role.

Of the acute infections we find tonsillitis, influenza, scarlet fever, diphtheria, pneumonia, puerperal fever and otitis media as the principal sources, while the more chronic forms of infection, such as dental infections, enteritis, prostatitis, osteitis, salpingitis, seminal vesiculitis, are equally contributory. In any event, the infection becomes hematogenous and produces its effect locally on the ureter, or in the lymphatics and lymphatic nodes that surround the ureter. Of the exact *modus operandi* there is still discussion.

Pathology.—There is marked round cell infiltration on the ureteral wall, the median coat and the epithelial lining being chiefly involved. The epithelial cells become flat and plate-like.

Palpation of the stricture gives a sensation of hardness and thickening of the ureter. The ureter is usually dilated above the stricture or between strictures. If the stricture has been

present long enough there is always evidence of dilatation of the kidney and kidney pelvis.

Ureteral strictures, like urethral stricture, may be classified as soft and cicatricial, the latter being subdivided into resistant and fibrous.

Clinical experience has shown that ureteral dilatation and the establishment of adequate

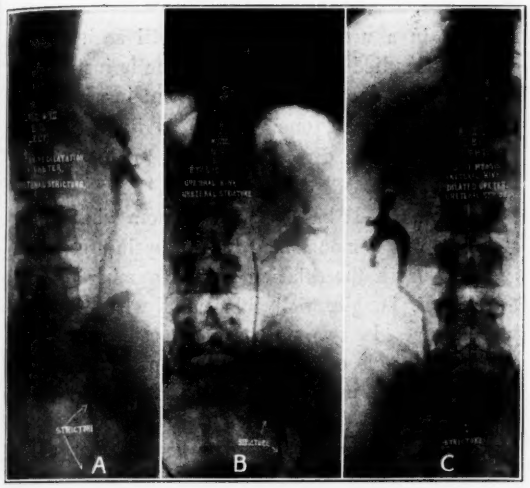

Fig. 5.—*A*, case 7: left beginning dilatation of ureter. *B*, case 8: left ptosis; ureteral kink; ureteral stricture. *C*, case 9: right slight ptosis; ureteral kink; dilated ureter; ureteral stricture.

draining is dependent on the character of the structure present in a given ureter.

I assume that we are all in accord with the fact that there is no such thing as cystitis *per se*. I am going to venture the seemingly extravagant statement that there is no such thing as pyelitis *per se*, except for congenital anomalies, tumor and tuberculosis. I believe if we afford a given patient free ureteral drainage there will be no pyelitis.

Symptoms.—Most of the cases that I have had occasion to examine have been referred to me because of acute urinary infection, with high fever, or as the result of Dietl's crisis. The latter are by far the most interesting. We formerly thought that renal or ureteral calculi were the only cause for this distressing syndrome. If we failed to find the calculus our conclusion was that it did not show in the skiagram, but we now know that ureteral stricture can produce a typical Dietl's crisis, and that with dilatation of the ureter the symptoms disappear.

We have come to regard "chronic appendicitis" with less suspicion than of old. I firmly believe that no case of so-called chronic appendicitis or chronic tubal infection should be operated upon without first having the ureter investigated on that side.

Acute appendicitis and acute pyelitis are often difficult to differentiate, but as a rule the leukocyte count is higher in pyelitis than in appendicitis. The urine may be free from pus, owing to poor drainage on the affected side, but at such times there is always pain on pressure in the costovertebral angle.

The more chronic type of ureteral obstruction is often very difficult to diagnose and it is here that the acumen of both physician and urologist is best tested. Cultures of the urine should be made in the cases of all males who present themselves with a chronic nongonorrheal discharge. If positive cultures are obtained the upper urinary tract should be investigated for ureteral stricture, but normal urinary findings do not rule out ureteral stricture.

In the female, when there is a history of vesical irritability at the menstrual period, together with abdominal pain in either side, a history of chronic appendicitis is significant and also indicates the necessity for a complete urological study.

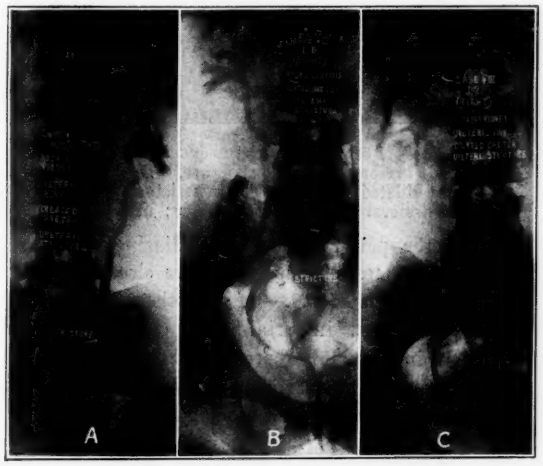

Fig. 6.—*A*, case 1: right rotated kidney; ureteral kink; dilated ureter; ureteral stricture. *B*, case 2: right hydronephrosis; dilated ureter; ureteral stricture. *C*, case 3: right rotated kidney; ureteral kink; dilated ureter; ureteral stricture.

Pain may be either acute or of the chronic type. In the acute form the most frequent

symptoms are those that accompany Dietl's crisis, or stimulate appendicitis.

The chronic type of pain is most frequently associated with ureteral stricture; as its incidence and progress are of long duration the pain produced by such changes are not always constant but often vague and fleeting in character. As the obstruction becomes more pronounced and the upper urinary tract becomes dilated pain becomes a fairly constant symptom. It often occurs in the abdomen, low down on either side, or in the back across the sacrum, in the cheek of either buttock, and frequently is referred down the leg, as in sciatica. It may also occur in one or both costovertebral regions. In an interesting case that came under my observa-

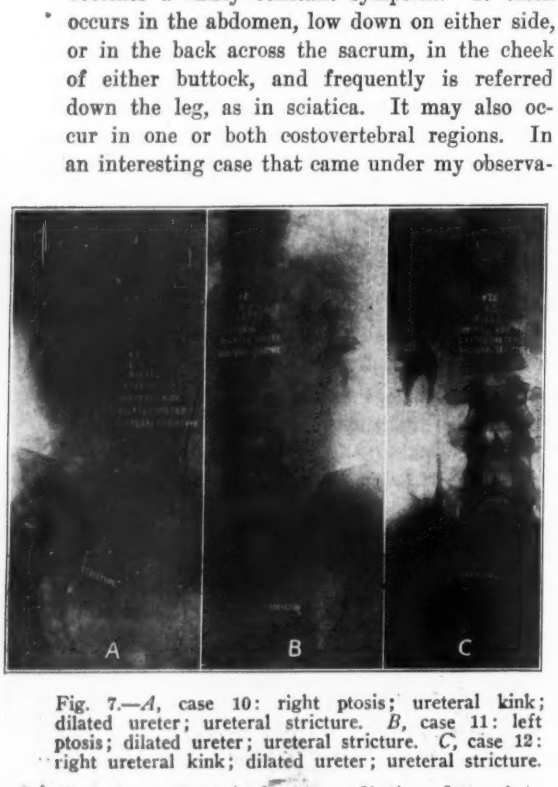

Fig. 7.—*A*, case 10: right ptosis; ureteral kink; dilated ureter; ureteral stricture. *B*, case 11: left ptosis; dilated ureter; ureteral stricture. *C*, case 12: right ureteral kink; dilated ureter; ureteral stricture.

tion the patient had pain radiating down into the right testicle and no where else.

Other Symptoms.—Of the other symptoms by far the most important and constant are the gastrointestinal. There may be gas distension, constipation, anorexia, nausea, vomiting, mucous colitis or diarrhea. Associated with these there is often a feeling of depression, irritability and restlessness. The patients are chronically tired and want to rest frequently. Mentally they often are dull and apathetic, their sexual powers are diminished and they have to drive themselves in order to accomplish their work.

Diagnosis.—While our attention was first called to this clinical entity by Hunner, the consensus is that we cannot accept his "ureteral hang" as pathognomonic of stricture. An abundance of clinical evidence is at hand to show that congenitally narrow portions in normal individuals will give the same resistance to the wax bulb.

If obstruction exists in a ureter and is constant one should be able to demonstrate the findings in a ureterogram, and until such evidence is supplied I do not believe one is justified in concluding that stricture is present in a given ureter. Of course, one's ability to interpret a ureterogram is in direct proportion to this clinical experience.

Treatment.—It has been our custom wherever stricture was demonstrated by the pyelo-ureterogram to begin the dilation with a number 3, 4, 5 or 6 F. bougie, well lubricated with liquid petrolatum. In two weeks the procedure is repeated, a bougie one size larger than that which was originally used being passed through the affected ureter. The dilation is continued every two weeks, the size used at the last dilation always being repeated, and increased one size at a time until the desired size is reached. We believe that the procedure of rapid divulsion of the ureter should be condemned as it only traumatizes the ureter and may result in additional scar formation later.

Since strictures of the ureter vary in their consistency, as do strictures of the urethra, the amount of dilation needed in a given case will vary. "Each is a law unto itself." In soft strictures we have been carrying the dilation to the number 12 F., then repeating in two weeks, and after that doubling the time on each succeeding visit. In some instances, however, in order to obtain lasting relief we have carried the dilation to number 14 F.

When ureteral dilation is carried out in the office I have found that the insertion of a rectal suppository of extract of opium and extract of belladonna, of each one-fourth grain (16 mg.), one hour before examination, together with the local application to the urethra of sodium bicarbonate and cocaine, of each 1.5 per cent., as recommended by Gardner, will produce an ideal preparation for cystoscopy. If the patient is encouraged to drink freely of water for several hours before examination, cystoscopy can be done in his own urine, a procedure that not only

shortens the manipulation but lessens the possibility of carrying infection into the bladder.

CONCLUSION

I believe ureteral stricture, whether congenital or acquired, to be the cause of upper urinary tract infection in a large group of cases. Its early recognition will save many kidneys from destruction and removal.

One must constantly bear in mind that the ureter is one of the most delicately constructed organs in the body. If we are to be successful in our endeavor to promote good drainage, care, gentleness and patience must be foremost in our thoughts.

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THE CLINICAL OBSERVATIONS OF GONORRHEA IN THE MALE

(Based On An Analysis of One Thousand Cases)

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This article deals with one thousand consecutive cases of gonorrhea in the male, investigated and treated at the clinics of Illinois Social Hygiene League of Chicago. I hope the following data and deductions may prove both interesting and useful from clinical and administrative standpoints.

Statistics on venereal diseases generally are greatly at variance and are to be regarded as accurate and utilizable only in so far as they are based upon sufficiently large clinical data extended over a considerable period.

The figures here presented are contained in the Sixth Annual Report of the Illinois Social Hygiene League of Chicago, and deserve serious consideration and study:

	Men Only		Women and Children		Totals	
	1926	1925	1926	1925	1926	1925
Disease:						
Syphilis	386	326	285	243	668	569
Gonorrhea	1255	1209	275	210	1530	1428
Chancroid	14	4	2	1	16	5
Non-venereal	241	201	153	112	394	313
Total	1896	1740	715	575	2608	2315
Social State:						
Married	419	407	407	321	826	728
Un-married	1474	1333	308	234	1782	1577
Total	1893	1740	715	575	2608	2315
How Infected:						
Prostitute	567	458	4	0	571	458
Street Walker	321	401	6	4	327	405
"Friend"	524	394	124	130	718	520
Wife or husband	61	33	309	286	370	403
Accidental	0	0	6	2	6	2
Congenital	2	0	83	50	85	0
Unknown	418	454	113	103	531	557
Total	1893	1740	715	575	2808	2315

We may note a general increase of venereal patients (12 per cent), also, that men infected by "Friends" have increased thirty-three per cent, while women infected by "Friends" have increased almost fifty per cent.

The full significance of these figures is emphasized by the well known tendency on the part of venereal patients to prevaricate willfully or ignorantly. Married patients often deny their extra conjugal derelictions and will imply that their infection is of marital origin. Examinations of their wives, however, often will prove the untruthfulness of their statements.

AGE OF PATIENTS

Under 20 yrs.	20-25 yrs.	25-30 yrs.	30-35 yrs.	35-40 yrs.	Over 40 yrs.
11%	38%	24%	13%	8%	6%

The greatest incidence of gonorrheal infection is between the ages of 20 and 25. The average age of patients treated is 23.4 years. There is a beginning of decline after the age of 25, which probably is due to marriage, a more intelligent use of prophylaxis, or an added experience in choosing sex partners.

USE OF ALCOHOL

Heavy drinkers 41%
Moderate drinkers 43%
Occasional or abstainers.....26%

It is obvious that these figures do not furnish

very much data on the true influence of alcoholic indulgence on the incidence of gonorrheal infection. Some patients will deny their alcoholic habits for fear of adding an additional stigma to their depravity, while others may be prompted to advance falsely their being drunk as an ethical excuse for acquiring the infection. Besides, patients' judgment as to what constitutes heavy, moderate and light drinking is rather variable.

INCUBATION PERIOD

2 days or less	3 days	4 days	5 days	6 days	7 days	8 days	Over 8 days
14%	17%	13%	14%	10%	10%	5%	17%

In one case the incubation period was eight hours; in sixteen cases over four weeks and in one the last known exposure occurred over two months previously. The foregoing table shows a great variation in the incubation period. Clinical evidence is against less than forty-eight hours incubation time in any new infection of gonorrhea. Previous to that period the disease is due to an exacerbation of an old gonorrheal condition or to a previous sexual contact.[1] When the incubation period is unduly prolonged (and according to Professor Asch of Strassburg, an incubation of four to eight weeks is by no means uncommon)[2] it is presumbably due to greatly increased resistance of the individual to the invasion of a mildly virulent strain of gonococci.

The factors that tend to prolong incubation in gonorrhea, whether it is the virulence of a particular strain of gonococci or the resistance of the individual, still remain largely in the domain of speculation. We believe, however, that one attack of gonorrhea renders an individual more susceptible to subsequent infection, as can be evidenced by a shortened incubation period in each succeeding infection, unless many years have elapsed since the cure. It may be noted in this connection that gonococci grown artificially do not show this wide variation in the time of appearance of the growth. They follow a definite life cycle, the stages of which are readily influenced by the slightest changes in the culture media, i. e., the more suited the media, the shorter is the period of appearance of the growth. When the urethral mucosae of animals are inoculated experimentally, discharge usually appears within twenty-four to forty-eight hours.[3]

NUMBER OF ATTACKS

First attack	680 cases
Second or more	320 cases

Complications. Of complications of acute anterior gonorrheal urethritis in the male, the most common is the posterior urethritis. The usual observation is that from sixty to eighty per cent of all gonorrhea patients treated at a clinic develop posterior complications. This may seem a very high percentage which may be lower in a private practice where patients are in more ideal environment and under better control. In a workingman's clinic a large percentage of our patients is engaged in heavy manual labor without a proper dietetic or sanitary regime, with no facilities for regularity of treatment. Statistics of involvement of posterior urethra in the course of treatment of acute anterior urethritis are in general very misleading. Strictly speaking, the extension of inflammatory process to the posterior urethra should not be regarded as a complication of this disease. It does not seem logical that a mere muscle bundle, a sphincter, that controls fluids from passing forward or backward can limit the spread of gonococci that advance in the submucous layer of the urethra. It is reasonable, therefore, to assume that it is the exceptional case in which the posterior urethra fails to become infected. The ensuing posterior urethritis may be quite mild and symptomless and may often escape detection by the usual clinical and laboratory methods. Some authorities[4, 5] maintain that the posterior urethra becomes involved in all cases of urethritis and they ridicule the idea that posterior urethritis should be called a complication of anterior. They hold that we might as well call anterior urethritis a complication of gonorrhea of fossa navicularis, or of gonorrhea of a woman. It is wise, in my opinion, to consider that all cases become posterior and treat them accordingly.

Epididymitis. The incidence of epididymitis in the course of gonorrhea is variously estimated. MacDonagh[6] states that fifteen per cent of acute urethritis cases develop epididymitis, Luys twenty-five per cent,[7] and Belfield[8] ten per cent. Our records of 1,000 cases show that epididymitis has occurred in 11.8 per cent of all cases of acute gonorrheal urethritis.

The First Attack				The Second Attack			
Right	Left	Both	Total	Right	Left	Both	Total
30	47	5	82	19	13	4	36

Twenty-nine of the patients had epididymitis on admission, while eighty-nine developed it on treatment. Epididymitis, like all complications

of gonorrhea, is more apt to occur during the first attack than subsequently. A large number of our patients continue to work while having epididymitis. It is to be regretted that so little of free hospitalization is available to the epididymitis patients and they are often in dire need of beds and hot fomentations.

Prostatitis, Vesiculitis, Etc. As gonorrhea is primarily a disease of sub-urethral glands and not of the muscosa, we find that littritis, cowperitis, prostatitis and vesiculitis are essentially features of this disease and are of more frequent occurrence than is generally supposed. Belfield[8] believes that the vesicles, for instance, are involved in a majority, if not in all, cases of gonorrhea and that gonococci may inhabit the vesicles just as diphtheria bacilli inhabit the throat or typhoid bacilli the gall bladder, long after the symptomatic recovery, and the patient unwittingly continues being a gonorrhea carrier, even in the absence of any urethral discharge.

Of gonorrheal cases examined and treated at this clinic, twenty-four showed evidence of prostatic involvement, as follows:

First Attack				Second Attack			
Right	Left	Both	Total	Right	Left	Both	Total
16	54	88	158	19	32	30	81

The most serious of all gonorrheal compli cations, namely, gonorrheal arthritis, has occurred in 1.8 per cent of our cases.

SUMMARY OF CASES

Patients treated	1,000
Discharged as apparently cured	346
Transferred to hospital	16
Still attending	72
Ceased to attend*	562
*(a) after one or two visits	212
(b) after three or more visits	350

Two hundred and seven patients, who have ceased to attend this clinic, left after receiving prolonged treatment and many of these apparently were clinically cured, but have failed to figure in the list of "cures," not having received the final test. It is common experience in all clinics that a certain number of cases will fail to continue with the treatment after one or two visits. Others will discontinue their treatment after a varying number of visits and a smaller percentage of cases will continue attendance until discharged as cured. Our experience at this clinic is no wise different. The causes are varied. Some change for a private physician or other clinics, some leave town and still others wilfully or ignorantly neglect treatment. My observation, regardless of the success achieved, reveals that some patients will continue to wander from one clinic to another and from one physician to another, so thankless is the task of treating gonorrhea.

Duration of Treatment. In estimating the duration of treatment (two clinic visits per week are taken as a standard, though no regularity of attendance is often observed) we find that the average number of clinical visits per patient was fourteen. The minimum time required to render the discharge free of gonococci was four days, the maximum 332 days, the average being forty-four days. The study was controlled by frequent microscopic examinations of the discharge. No attempt is made at this clinic to achieve a time record. In studying these cases, I find that it is not feasible to set a time limit for keeping gonorrheal patients under observation and control. Prolonged observation of gonorrheal patients after an apparent cure is just as essential as in cases of syphilis. The test of time is all important in supplementing other methods of establishing a cure.

The Cure. As the problem in venereal clinics is concerned mainly with that of infectivity, the word "cure" is used largely to denote the cessation of infectiveness. There is no fact or combination of facts, clinical or laboratory, known at the present time which may be regarded as conclusive evidence of a cure of gonorrhea in the male. The determination of a cure rests entirely upon the skill and experience of the clinician making the examination. At the All-American Conference on Venereal Diseases, held at Washington, D. C., in 1920, the following resolution was adopted:

"Resolved that with our present knowledge it is not scientifically or medically practicable to establish a standard for determining when gonorrhea is cured."

Clinical data will continue to form the basis of any standard of cure in gonorrhea in preference to any method that a laboratory can offer us. In general some standards are too low, while others are too high and patients will not submit to them. Those who do submit become miserably introspective, suffering all manner of symptoms and complexes and constantly interpreting these for themselves, often with much originality.

We have endeavored at this clinic to establish some reasonable and workable standards for the determination of an apparent cure of gonorrhea in the male, standards which are largely in conformity with the rules formulated by the Sanitary Code of the Chicago Department of Health. Our standards of cure are as follows:

1. There should be no meatal discharge after cessation of treatment.

2. The urine should be free of shred and filaments. (Shreds, if present, continue to float at least for two minutes after the agitation of fluid has ceased).

3. Examination of prostates and vesicles should be negative and the expressed discharge free of gonococci and pus.

4. The passage of a sound of adequate size should reveal no strictures, enlarged periurethral glands, nor provoke any reaction.

5. Provocative injection, deep instillation of silver nitrate one percent solution, or protargol five per cent solution, and subsequent microscopic examination of discharge should prove negative.

6. Negative gonorrheal fixation test.

After disappearance of all symptoms, the patients should be kept under observation for at least two weeks.

Treatment. The treatment of gonorrhea is one of the most difficult problems in medicine. Those of us who have had the opportunity to observe the treatment of this condition in the army, dispensary practice and private offices, will agree that although much progress has been made in recent years in the treatment of gonorrhea, we are still a long way from the ideal. Our present day treatment of gonorrhea is still largely empirical, as in the last century.

For centuries the medical profession was dreaming of curing gonorrhea through a direct gonoccidal action of some chemical, though this is entirely contrary to the whole rationale of this disease. If the urethra were a simple tube, without glands, crypts or rugae, it would be an easy matter to devise some washout which would speedily cure this condition. Unfortunately, nature does not work in this fashion and by the time urethral discharge has made its appearance, the gonococci have already penetrated beneath the surface of the mucous membrane, invaded the glands of Littre and the crypts of Morgagni and have entrenched themselves safely beyond the reach of any antiseptics that will penetrate the deep urethral structures, without injuring the urethral mucosa. Failure to recognize this fact and persistence in the use of local treatment to the point of irritation is often responsible for many cases of chronicity in gonorrhea.

There is no ideal drug in the treatment of gonorrhea, for the present at least, since the same chemical action that forms a metal protein compound of the microplasm also will form a metal protein compound of the protoplasm, and the same force that oxidizes a microorganism also will injure the tissues. Any drug that exerts a parasitotropic action on the gonococcus also will have an organotrophic action on the tissue of the host. We must confess, that in our arduous search for specifics, we have often sinned against the cardinal warning: ***nil nocere!*** —and instead of treating the disease we have maltreated the patient. We must not forget the *vis medicatrix naturae,* and it is always better to leave the urethra alone, at peace, especially in the acute stages of a disease, adopting a policy of *"laissez faire,"* than treating it *"cum furore."* Some patients have a remarkable resistence against germ absorption and will make a rapid recovery under almost any form of treatment, or perhaps, without treatment, while there are cases in which a total cure cannot be obtained, no matter what method of treatment is instituted. We have frequently observed that there are types of gonorrheal infection that at first respond well to a certain type of treatment, but later fail to do so, just as there are infections that do not respond to a given drug at first, but its persistent use will eventually break up the resistence of gonococci and force them to capitulate at the end. Undoubtedly we are dealing in this instance with a case of acquired or relative immunity, for were it an absolute or natural immunity there never would be a response of gonococci to the drug.[9]

It can be justly said that there is hardly a drug or combination of drugs that has not had its advocates and opponents in the treatment of gonorrhea. Each urologist lauds his pet drug today and may discard it tomorrow for another would-be specific. Only those drugs that have been tried and have withstood successfully the test of time are entitled to their rightful consideration.

On theoretical and experimental grounds, the

silver salts, especially their colloids, seem best to comply with all requirements and desiderata for an efficient gonococcidal, though we observe no conformity of opinion on the part of urologists as to the efficacy of various preparations. The commercial houses, taking advantage of this, have flooded the market *ad libitum* with a great variety of chemicals for the treatment of gonorrhea. It has been estimated[10] that there are forty-five silver preparations advertised to the medical profession at the present time, for alleviating the ills of gonorrheal patients. These are commercial butterflies—beautiful to look at, but of little use otherwise.

Recent investigations of Schwartz and Davis[11] at the Brady Urologic Institute of Johns Hopkins University on the action of various drugs on gonococci brought out the following data:

1. Silvol, argyrol, protargol, cargentos have definite, but not high germicidal value against gonococci.

2. Phenol, tricresol, potassium permanganate, zinc sulphate, boric acid have too little germicidal value against gonococci to be useful as germicides in urethritis.

3. Chlorazene has a moderate germicidal value.

4. Potassium mercuric iodide has a high germicidal value against gonococci,—1:40,000 solution kills the gonococcus in twenty minutes.

5. Potassium permanganate in 1:4000 dilution fails to kill gonococcus in twenty minutes.

Introduction of aniline dyes, such as mercurochrome-220, acriflavin, tolulene-diamine, diazene-black, methylene argochrome, picric acid, etc., did not aid materially our gonorrheal therapy. Hugh Young, the discoverer of mercurochrome-220, has recently stated[12] that, in spite of the high test-tube activity of solution of mercurochrome-220, results obtained by the local use of these solutions in acute gonorrhea have not been vastly superior to the intelligent use of other drugs, particularly silver salts, while Van Lockum at the Mayo Clinic reports that mercurochrome-220 is most effective when used alternatingly with argyrol.

The use of acriflavin in its various forms in the treatment of gonorrhea is less extensive today than during the post-war period. In Great Britain, Colonel Harrison,[10] Watson,[13] and others obtain good results in acute gonorrhea with urethro-vesical irrigations of 1:3000 solution of acriflavin in a normal salt. Herrold & Culver,[14] advocate injections *per urethram* of a two-tenths per cent solution of acriflavin in gelatin, claiming that they are better tolerated by the urethral mucosa than much weaker aqueous dilutions of this drug.

The discovery of salvarsan has stimulated a search for a similar drug in the treatment of gonorrhea. Salvarsans, mercurochrome-220, acriflavin, urotropin, etc., were used intravenously by various investigators. Of fourteen cases of acute gonorrheal urethritis treated at my office by intravenous injection of urotropin according to the method of Sirota[15] (5 c. c. of 40 per cent solution of urotropin every second day for six to eight injections), nine showed the presence of gram-negative intracellular diplococci in their urethral discharge on the eighteenth day of treatment, two had mucoid discharge, with no bacteria and three cases were free of any meatal discharge.

In an attempt to find a new line of attack, vaccines, serums, enzymes, foreign proteins, grape sugar, diathermy, etc., were added to our gonococcocidal armamentarium and are being widely used by the medical profession with a view of increasing bodily resistance to the invading organism.

MacDonagh,[6] of London, the iconoclast among present day urologists, has abandoned all local treatment in acute gonorrhea and employs only an intramuscular injection of manganese butyrate, contramine and detoxicated vaccines. Janet,[16] on the other hand, claims that his results with vaccines are no better than those obtained with irrigation of potassium permanganate alone. David Watson[13] considers that the ordinary vaccines are dangerous in prolonging convalescence and are making the treatment of chronic infections more difficult.

I believe that the use of gonorrheal vaccines in this country is less extensive now than formerly. Both gonorrheal serum and vaccine are omitted from the "New and Non-Official Remedies," as in the opinion of the Council of Pharmacy and Chemistry there is not sufficient evidence to show that they have any therapeutic value. It appears that the pendulum in the gonorrheal therapy swings again to the right—to the more conservative methods of attack.

"Vaccine therapy" says Eyres "is but an immature and imperfect attempt on the part of mere humans to imitate the reparative methods of Dame Nature." [17]

My own observation on the vaccine therapy in neisserian infections has convinced me that there is an element or elements in it that we still do not understand, and until this unknown factor is eliminated there will be but little progress made in the field that Sir A. E. Wright has opened for us. Wright's prediction that the physician of the future will be "an immunisator" has not yet been fulfilled, at least in the field of gonorrheal therapy.

The full evaluation of the non-specific proteins and of diathermy in the treatment of gonorrhea in the male cannot be made at this time. My observation is that their chief field of usefulness for the present lies in the treatment of some gonorrheal complications, especially acute epididymitis.

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SPONTANEOUS CEREBRAL AND MENINGEAL HEMORRHAGE IN YOUNG ADULTS

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Subdural, subarchnoidal and intracerebral hemorrhage, as the result of trauma, is a common condition. Subarachnoidal and subdural hemorrhage associated with and dependent upon arteriosclerosis, senile vascular change, syphilis, lead poisoning, purpura, scurvy, leukemia, pernicious anemia, chlorosis, less often tuberculosis and rarely in congestive heart failure, is sufficiently well known not to warrant description. *Spontaneous* meningeal or cerebral hemorrhage in *healthy* young adults is of such spectacular onset, such serious import and of such increasing frequency as to suggest at least a more careful consideration than is assigned to it in the ordinary text- book of medicine or neurology.

In the literature one finds this type of cerebral pathology described under various titles, i. e., pachymeningitis hemorrhagica interna, spontaneous subarachnoidal hemorrhage, etc.

It is reasonable to suppose that the title given has been dependent upon the pathology actually present or supposed to be present in a particular case. However, the pathology present in spontaneous hemorrhage of the type here discussed may vary from the well-known rupture of a small congenital arterial aneurysm near the circle of Willis in a young person to the bleeding capillary in the pseudomembrane found characteristically in the more chronic condition of pachymeningitis interna in older people.

The delicate subdural and subarachnoidal pseudomembrane with its numerous capillaries of large size was described years ago in pachymeningitis interna. It was thought that an antecedent inflammation gave rise to the development of this membrane and hemorrhage was secondary thereto. This popular view has not received universal acceptance and will not explain many cases of spontaneous hemorrhage. By others the hemorrhage has been regarded as primary and the membrane *secondary.*

It is obvious that a hemorrhage of spontaneous type may be localized to a small area, spread over considerable area of the brain sur-

face or may involve an area of the brain and an area of the spinal cord at the same time.

Recent experimental work has shown that two types of hemorrhagic membrane may be produced, a nontraumatic idiopathic or vascular type with its network of capillaries which may approach the size of large blood vessels, and secondarily a traumatic reactive type characterized by irregular blood spaces which anastomose. This latter type is *preceded* by a subdural hemorrhage.

As noted previously, certain cases of spontaneous meningeal or cerebral hemorrhage are due to congenital aneurysms, syphilitic vascular changes, blood diseases, tumors, etc. There remains, however, a group of cases which is of decided importance and in which there is *no single factor of definite etiological relationship.* In this group, *trauma plays no part.* It is foolish to assume, as has been done, that such hemorrhages in or on the brain are due to previous "unrecognized trauma" of slight degree.

More attention is being paid to brain injuries during delivery and in infancy to subarachnoidal, subdural and cerebral hemorrhage in relation to the early and late development of convulsions, epilepsy and the like. But even here there is an underlying factor which is certainly not traumatic for while it seems true that such hemorrhagic disease is more common in instrumental labor, it does occur in spontaneous labor, may occur after a very easy instrumental delivery, and frequently is not seen after an extremely difficult, prolonged operative termination of labor.

The clinical picture of meningeal hemorrhage in infants with vomiting, rigidity of the neck, hypertonicity, twitchings, hyperesthesia and retinal hemorrhages has been well described in the literature. Retinal hemorrhage in the meningeal hemorrhage of adults is not so common but does occur and may present the picture of an associated bilateral thrombosis.

Whether the bleeding is directly attributable to diapedesis, toxic or inflammatory injury to the vessel wall, or actual rupture is only to be surmised in the absence of careful pathologic study and not infrequently even then.

Recently attention has been directed to the severe symptoms of meningitis which may follow spinal puncture and to the meningeal picture produced by spontaneous hemorrhage by Spiller and Payne.

CASE REPORT

The following case shows the characteristic clinical picture produced by idiopathic, spontaneous, meningeal hemorrhage in a perfectly *healthy* young adult.

W. B., aged 24, was perfectly well until three o'clock in the afternoon of June 9, 1923. He had had no sore throat, sinus infection, headache, dyspnea, edema of the ankles, and no evidence or history of cardiovascular disturbance or renal disturbance. He was well known to both of us and there was no history suggestive of any cardiovascular or vascular disease. Suddenly while walking along carrying a pail and about to step up on a car, he was seized with a terrific basal occipital headache, so severe that he could not see a thing. He could not raise the left leg, sank to the ground, and grasped his head in his hands. He was carried to a small yard office, vomited several times and lapsed into unconsciousness.

Examination that night showed a young adult acutely ill, but conscious and able to answer questions. The scalp showed no evidence of cranial injury as also the skull. The pupils were widely dilated and reacted slowly to light; visual acuity good. The teeth showed no infection and the gingiva no line or other evidence of pathology. The tonsils and pharynx were not inflamed. There was no discharge from the nose or the posterior nasopharynx. The neck was somewhat rigid both anteroposteriorly and laterally. The lungs showed no active peripheral pulmonary pathology. The heart was entirely normal. The abdominal and lumbar musculature was hyperesthetic. The patellar reflex on the left was questionably increased, the Achilles reflex somewhat more active on the left, and there was an equivocal plantar response on this side. The temperature was 101, pulse 100 and respiration normal. Morphin was given with little effect. Careful questioning failed to elicit any history of colic, constipation, wrist drop, weakness, or of any sign or symptom even remotely suggestive of lead poisoning with lead meningitis.

Early on the following morning the patient still had a terrific basilar headache, temperature of 100, and was acutely sick. The pupils were dilated, no loss of sight, neck rigid, opisthotonus present, and a left plantar extensor. There were also present a bilaterally positive Kernig sign and involuntary twitchings in the lower left leg and foot. Spinal puncture was done and 45 cc. of a uniformly bloody fluid withdrawn. The fluid was under great pressure. There was instant relief of the symptoms. The patient became quiet, headache improved and shortly thereafter went to sleep. On the same day an acute urinary retention developed which yielded to ordinary treatment. On the following day the patient again showed the picture of extensive meningeal irritation. Spinal puncture with removal of 30 cc. of bloody fluid again gave relief. On alternate days spinal puncture was done with removal of 30 cc. and 20 cc. respectively of a decreasingly bloody fluid.

The spinal fluid at each removal was uniformly bloody and under great pressure. Cultures on ordinary and special media gave no growth. There was no relative increase of polymorphonuclear cells judged by the comparative blood and spinal counts. The spinal fluid and blood Wassermann reactions were both negative. The white count on the second day was 18,000. Careful examination of blood smears showed no trace of stippling. The hemoglobin was normal and there was no anemia. The temperature ranged between 100 and 101, but came down rather rapidly after puncture. Fourteen days after the initial symptoms the patient was up and about apparently recovered except for a slight residual rigidity which persisted for some time.

This patient has now been followed for four and one-half years, an adequate time for the development of evidence of specific cerebral pathology, vascular pathology and tumor. At the present time he is, so far as one can determine on examination, perfectly well. We, therefore, have a healthy young adult who suddenly for no reason whatsoever develops the characteristic picture of severe meningeal irritation due to a spontaneous subarachnoid hemorrhage, filtering down over the right cerebral cortex and the spinal cord.

During the residence of one of us (L. H. S.) at the Cook County Hospital, there was brought to the ward a young, well-nourished, adult colored girl complaining of a severe headache, nausea and vomiting, and showing all the classical signs and symptoms of a well advanced meningitis. The Kernig sign was more marked on the left, as were also the Achilles and patellar reflexes. There was a bilateral plantar extensor response. On admission 40 cc. of a uniformly bloody fluid were removed. The next day a like quantity of fluid of similar character was removed. Daily puncture thereafter gave a fluid of the same type. Five days after admission a left hemiplegia suddenly developed preceded by irritative signs. At autopsy the source of the bleeding was found to be in an angiomatous tumor of the brain. Blood filtering down over the cerebrum and spinal cord had produced the clinical picture of a most severe meningitis. There was no history of trauma in this case.

While the exact pathology present in the case herein reported is unknown, the clinical picture and symptom complex produced by this spontaneous cerebral and meningeal hemorrhage in a perfectly healthy young adult male conforms closely to the non-traumatic, spontaneous pachymeningitis hemorrhagica interna of the literature.

More recently one of us has seen such an idiopathic spontaneous subarachnoidal hemorrhage in association with a bilateral retinal thrombosis.

The diagnosis is made upon the "brutal onset," the severe picture of meningeal irritation, and the finding of a uniformly bloody spinal fluid under increased pressure. One should remember that days after such a hemorrhage the spinal fluid gives evidence of the condition present.

As regards treatment, early and repeated lumbar puncture is indicated with spinal pressure readings sufficiently often to form an idea of the intracranial pressure. Every effort should be made to discover an etiologic factor on which to base a rational therapy.

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TOXEMIAS OF PREGNANCY*

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When we consider that 29 per cent. of our stillbirths and macerates are the result of toxemia and that 27 per cent. or more of the women who die during pregnancy or in childbed die from toxemia, convulsions or their sequellae, it is evident that there is no uniform teaching on this subject, and that too much surgery is being

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done on a medically sick patient. It is, therefore, my purpose in this discussion to consider the known clinical facts in hyperemesis, pre-eclampsia, in contra distinction to pregnancy occurring in the nephritic women and in eclampsia with its convulsive explosions, in order that the practitioner may better understand the present status of this baffling subject. It may be said that pregnancy is the great efficiency test of the workings of the maternal organism; for the fetus and the uterus in their growth call for such adaptative changes in all the important organs of the mother that unless there is perfect and harmonious efficiency on the part of all of the organs called upon in the development of the fetus and uterus, the load cannot be carried. The pituitary, thyroid and parathyroids all become activated, ovulation ceases and more work is demanded of the liver, kidneys, lungs and heart. Therefore, it is easy to deduce that incompetence on the part of any organ must shift the load to the others with resulting defect in the body metabolism. The toxemias of pregnancy present the most striking examples of maternal mal-adaptation to the needs of the fetus and fetal growth. The very fact that nausea and vomiting of greater or less degree occur in more than 50 per cent. of pregnant women may be considered as inevitable evidence that there is a temporary disturbance of the physiologic balance. This has been accounted for by the relative carbohydrate deficiency due to the unexpected demand for glycogen on the part of the fetus, and to the actual deficiency occasioned by the nausea, vomiting and the consequent lessened intake.

With these facts demonstrated it takes but little imagination to appreciate that by lack of care, marital indiscretions, improper hygiene and dietetics, this vomiting which is so common in the early months may be aggravated to a degree which will take large quantities of fluid out of the body tissues resulting in dehydration. The actual fluid loss from emesis in patients who have had no fluid intake by os, varies between 1000 and 2000 cc. per diem. Such a fluid loss repeated day after day, quickly dehydrates the woman and produces the clinical picture of dehydration which is so familiar to you all. The rapid emaciation, the dry coated tongue, dry cracked lips, increasing pulse rate, diminished urinary output and lowered blood pressure. Rapid emaciation is further augmented by starvation, and we find the following clinical phenomena result: The blood pressure is lowered, the pulse gradually increases in rapidity, the urinary output is diminished; while there is a concentration of the body fluids and an increase in the carbohydrate deficiency as more and more glycogen is abstracted from the liver, in order to carry on life. Together with these signs the leucocyte count is usually diminished and an icteric hue tinges the conjunctiva. It may, therefore, be deduced that the pathology found in the liver and kidneys is a result of a retention of toxic products consequent upon the dehydration and the glycogen deficiency. Certainly the final pathology in the liver is identical with that found in patients dying from starvation. This deduction is supported by the fact of the rapid subsidence of hepatic and renal symptoms when the uterus is emptied or when diuresis is produced.

Mundell studied the blood chemistry in a series of 52 normal pregnant women at the different months of pregnancy beginning with the second and ending with the ninth. This study shows conclusively that there is very little actual change in the blood chemistry except in the nonprotein nitrogen and uric acid contents. The normal blood seldom contains more than 3 mg. of uric acid to 100 cubic cc.; while the nonprotein nitrogen rarely exceeds 30 mgs. In excessive vomiting with dehydration and rapid emaciation, the uric acid reaction is always slightly increased. Another significant point is, that the blood sugar maintains its normal ratio in the pregnant woman until about the end of the third month or about the time when placentation takes place, at which period we note a sharp drop in the sugar content; while toward the end of the fourth month and the beginning of the fifth the ratio again seems to be established on a normal basis. This point to the disturbance in the carbohydrate fat ratio as the basic factor in this disease. It is on the acceptance of these facts that the adoption of the suggestions of Harding and Titus have proved their clinical value. The intravenous use of large quantities of a properly prepared glucose solution replaces the sugar deficiency and allows the proper function of the liver to carry on.

Roger, Davis and Whipple have shown that starved animals are especially susceptible to liver

injury; while by increasing the carbohydrate intake the liver resistance is increased.

At the research laboratory of the University of Minnesota, liver tolerance has been most exhaustively studied. It has been found that it is possible to remove four of the seven lobes of a dog's liver, and by giving such an animal daily injections of a glucose solution his health will in no way be impaired. On the other hand, if no glucose is given, his susceptibility to injury, dietary indiscretions or exertion are very manifest.

In mild cases of early vomiting the patient should be impressed with the necessity of revamping her mode of life, her dietetics and her hygiene. Perhaps the most important of these is her sex hygiene—it is imperative that marital abstinence *be insisted upon;* that malpositions of the *pelvic organs be corrected;* that the constipation be relieved—and in addition to these fundamentals, that the amount of carbohydate as well as fluid intake be increased to the point of greatest tolerance. The copious ingestion of water should be encouraged—usually in the form of a bland or alkaline water (Poland, Kalax or Celestin Vichy) *at least two quarts of water must be taken daily.* To meet the carbohydrate deficiency, we insist upon increased intake of carbohydrates in the form of cereals, fruit, fruit juices with sugar, puddings, chocolate or candy.

These general principles should be supplemented by rest in bed after meals, and the internal administration of small doses of thyroid extract. Should the vomiting persist and the patient lose weight, rest in bed *with absolute isolation is to be insisted on;* and the fluid loss made up by the hypodermoclysis, eneteroclysis and the intravenous injection of glucose solutions amounting to 1000 cc. of 10 per cent. solution daily until diuresis is produced.

In 1924 and 1925, Thalhimer extended his treatment of post-operative nondiabetic acidosis to include cases of toxic vomiting of pregnancy. Briefly, the method consisted in the intravenous administration of about 1000 cc. of warm 10 per cent. glucose solution at the rate of from 200 to 300 cc. an hour. In addition, fifteen minutes after the injection has been begun, 10 insulin units is given hypodermically. More insulin is given at intervals of an hour, until 30 units to the thousand cubic centimeters of glucose solution has been given. Although Thalhimer gave due credit to Titus, Hoffman and Givens, and to Duncan and Harding, who had administered glucose alone in cases of this sort, his method of combining insulin with glucose has not given better results than did glucose alone. If this treatment is successful, the pulse will become slower and fuller, the blood pressure will rise, the urinary output will be increased, and the vomiting will diminish or cease altogether.

When glucose alone or in combination with insulin fails to produce this improvement, I have employed transfusions of 300 cc. of human blood by the direct method, to which is added 500 cc. of physiologic sodium chloride solution. The success of these procedures has been so satisfactory that I have not had to empty the uterus for vomiting in a period of nine years. It must, however, be impressed on the attendant that if, under this plan of treatment properly carried out for a period of a week, diuresis is not produced and the vomiting continues, the uterus should be emptied. As soon as vomiting ceases, the patient should be given solid food with a high carbohydrate content. Should no improvement take place after transfusion, the uterus should be emptied under morphin-scopolamine narcosis.

Preeclamptic Toxemias: The situation in preeclamptic toxemias is not the same as in pernicious vomiting, except that they both occur in pregnant women, and that in fatal cases the liver is always seriously involved. In the study by Herrick at the Sloan Hospital, where every toxemia of the latter months is studied by the internist as well as by the biochemist and the obstetrician, they have come to the conclusion that the woman who develops a preeclamptic toxemia or an eclampsia is the woman who starts in on her pregnancy with defective emunctories or an unbalanced endocrine system. It is the result of a dysfunction and improper correlation of the eliminative system and endocrine control in the individual woman. My own study tends to confirm this theory, which has a definite clinical backing. Therefore, *the real clinical questions in toxemia are what physical type of woman breaks down under the strain of pregnancy. What pathological changes does she show before and during pregnancy, and what pathology remains after so-called recovery?*

Women with persistent systolic pressures of 150 and diastolic pressures above 100 at the beginning of pregnancy are not likely to go through pregnancy successfully. A systolic pressure of 140 may be considered hypertension in pregnancy, for the normal pregnant woman has a characteristic arterial hypotension. *The late toxemias of pregnancy represent failure of a defective maternal cardiovascular-renal system* to adapt itself to the strain of child bearing. This is subsequently shown by cardiovascular renal changes evidenced by albuminuria, nitrogen (nonprotein) retention.

I feel certain that eclampsia is not due to any specialized toxin or toxins elaborated by the growing fetus or its appendages combined with the failure on the part of the mother to develop an antitoxin, but rather to the overload suddenly placed on the maternal organism; for the pregnant woman shows a condition of rapid uterine growth and a rapid increase in weight superimposed on an adult organism that has ceased to grow. It is only natural, therefore, that metabolic strains are set up in the mother to meet the demands of the fetus. This results in a disturbance of the metabolic balance, which in turn affects hepatic and kidney function; for it is well known that eclamptic disturbances which characterize the latter half of pregnancy occur at a period of rapid fetal growth at a time when it needs an increased quantity of glucose to maintain it. This in a way confirms the low sugar content of the blood in pregnant women, as well as the increase in the uric acid content of the latter weeks.

Repeated studies of the blood chemistry in preeclamptic toxemias show nothing that is significant or characteristic, except that *when the blood is found to have a decided nitrogen retention, either in the form of nonprotein nitrogen* or *in uric acid*—it may be assumed that nephritis is the predominating factor in the particular toxemia.

I had expected to find that the basal metabolism rate would be materially changed in the pregnant woman, and be available as a diagnostic sign of some value in the preeclamptic toxemias, but studies of the readings at different periods of pregnancy have proved that the woman who is functionally fully equipped and healthy in the early months has practically no change in her metabolic readings, and that there is slight though definite elevation of the basal rate in the latter half, returning to the normal after a few days of the puerperium. In the preeclamptic state the readings are slightly higher than normal; this, however, is demonstrated only in the severe conditions. There is little or no difference in the patients with and without a preexisting kidney lesion, so that antepartum differentiation cannot be made by this test. However, in the nephritic type the reading is apt to remain higher for some time after delivery; which in a way coincides with the blood pressure readings; therefore it may be concluded that neither blood chemistry nor metabolic rate throws much light on the etiology or prognosis. Furthermore, the clinical manifestations, those which may be observed by any keen practitioner, are of greater significance.

Diagnosis: The preeclamptic toxemias are usually considered under:

1. The hepatic type, which is commonly of sudden development with a nephrosis, as the kidney lesion without any preexisting history of renal disease.

2. The renal type, in which nephritis is a contributing etiologic factor. The clinical distinction between these two types in antepartum toxemia is difficult to make, though in the former there is no previous history of renal disease, while in the latter there is always some clinical evidence of preexisting kidney lesion. However, after the labor is terminated, the hepatic type is shown by the relatively quick return of the blood pressure and kidney function to normal; while in the renal type it may take months to clear the urine of albumin and casts, and the blood pressure never ranges below 140. The earliest evidences of toxemia are:

1. A rise in the systolic blood pressure.

2. The appearance of an albuminuria coincident with or appearing soon after the occurrence of hypertension.

3. Diminished urinary output—the quantity of urine eliminated falling below 1000 cc.

4. An increase in the body weight beyond the normal 25 pounds.

5. The appearance of edema in the face, hands and feet.

6. Constipation associated with "heartburn" and epigastric distress.

7. Frontal headache.

8. Eye symptoms, ranging from spots before the eyes to amaurosis.

Blood Pressure: The pregnant woman whose kidneys are healthy at the time of conception carries a hypotension seldom rising above 120. Progressive readings above this point demand watching. Increasing hypertension during the course of pregnancy at any age points toward the onset of toxic symptoms. Rise in pressure usually precedes the appearance of albumin by days or weeks, unless there is a pre-existing kidney lesion. Coincident with the occurrence of albumin there may be a diminution in the urinary output with or without increased concentration.

Weight: The pregnant woman normally increases her weight by about 20 to 25 pounds (9 to 11 Kg.) in the course of pregnancy. The greater part of this increase takes place during the last four months. *Rapid increase is always dangerous*—less so when associated with edema, for edema seems to be a salutary and conservative process which takes the toxins out of the blood and deposits them in the tissues. Eclamptic explosions are less liable to occur when there is edema, especially when the edema forms slowly, than when it is of rapid appearance.

Headaches: Frontal headache is one of the later manifestations of toxemia, sometimes the earliest forerunner of a convulsion. Headaches should always be inquired into. They are more common in the nephritic type.

Gastric acidity with pain or burning in the epigastrium is another evidence of toxemia which gives warning of impending danger.

Eye: Eye symptoms are common in the nephritic type, the fundal and retinal changes having the same appearance as are found in glomerular nephritis. They are usually absent in the fulminating type except for increased tortuosity of the vessels, high arterial light reflex and increased spasticity. Occasionally exudate may be present.

The treatment of the preeclamptic state and of eclampsia is essentially medical. The obstetric problem comes in for consideration only when labor is established by the convulsive seizures. Notwithstanding the fact that convulsions cease in 52 per cent. of the cases when the uterus is emptied, we are not justified by the results in any extensive series of clinical observations in making delivery the first consideration in view of the poor surgical risk. Naturally, the treatment of the latter month toxemias resolves itself into:

1. Prevention. One of the greatest strides in preventive medicine has been the antepartum care given to the pregnant woman. It has resulted, in many clinics, in the passing of eclampsia.
2. The control of the convulsion.
3. The management of labor in the presence of convulsions when labor has started.

The preeclamptic toxic patient should be in bed. She should have her nitrogenous intake limited to just enough to sustain life; milk and fruit juices with sugar make up the foundation of her diet. Stimulation of her emunctories should be done by promoting diuresis. This may be done with water and the intravenous use of glucose solutions, except in the cases of edema, when the exhibition of fluids should be restricted and diuresis stimulated by lumbar cupping, ammonium chloride and calcium chloride. The skin must always be kept active. This effect may be secured by having the woman rest between blankets or with the electric baker. To favor surface relaxation the nitrates will add to the efficiency of heat. When no improvement is shown, pregnancy must be terminated in a way indicated by the existing obstetric condition, always keeping in mind that the toxic patient is a poor surgical risk, bearing anesthesia poorly, liable to shock, and more susceptible to infection than her better equipped sister. Haste and trauma must be avoided. *In the presence of convulsions the indications are never surgical.* With the appearance of the first convulsion, the woman should be given (hypodermically) one-fourth grain of morphin sulphate; placed in bed in the Trendelenburg posture, and turned on the side in same position to allow the mucus to drool from the mouth. The tongue must be protected by a "gag"; the bladder is emptied by catherization. If the pressure is 150 or more, 1000 cc. of blood should be withdrawn. This may be replaced by 500 cc. of a 10 per cent. glucose solution. The morphin is repeated in an hour—and nothing else is done.

Unless the convulsions recur and the supervening coma increases to a degree that the patient remains comatose between convulsions, this condition is an indication for the intravenous use of magnesium sulphate in quantities of 100

cc. of a 25 per cent. solution which has had a mostly kindly effect, diminishng the cerebral edema and controlling the occurrence of subsequent convulsions. This medication may be repeated at intervals of 4-6 hours.

The management of labor in the presence of eclamptic convulsions is based on the three principles of: 1. Avoiding trauma; 2. preventing infection, and 3. diminishing the shock—for the eclamptic patient is a very poor surgical risk.

My plan has been to disregard the labor until complete dilatation of the cervix is obtained when, if the head is engaged and at the spines, delivery may be expedited by the use of low forceps under light oxygen-ether narcosis added to the morphin anagesia.

Section has been limited to those cases in which there was a definite obstetric indication and not employed as a routine for rapid delivery. My experience shows that prevention is the keynote of success; the toxic patient needs active treatment with the first appearance of hypertension; convulsions may be prevented by induction of labor when medical means fail to reduce tension and produce diuresis, and the treatment of eclampsia is essentially medical, and surgical delivery has only a limited field.

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PHYSIOLOGY OF THE STOMACH AND DUODENUM*

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At one stage of the human embryo, the stomach is a straight tube comparable to the stomach of certain fishes and other lower animals. As the embryo develops the stomach bends on the lesser curvature and an outpouching occurs on the greater curvature which goes to form the fundus. The human stomach is comparatively a simple stomach, as compared with the stomach of the ruminates in which various pouches are so cut off so that there are in reality several stomachs. The human stomach is divided into the fundus and antrum by an indentation on the lesser curvature known as the incisura angularis. The lesser curvature—the least modified part of the primitive stomach—differs from the rest of the organ in that its arteries have the character of end arteries, its mucosa is more adherent, and in some animals it can contract to form a trough more or less shut off from the rest of the stomach. These anatomical peculiarities may be of some significance in explaining its pathology.

We all know that the stomach lies in the left upper abdomen and extends down and then across toward the right but it might be emphasized that there is no such condition as a dropped stomach or gastro-optosis. The fundus always stays in contact with the left diaphragm. There is however such a condition as a long or atonic stomach but that may be considered normal. Recent studies have shown that many individuals who are apparently perfect specimens of manhood have stomachs whose greater curvature and sometimes the pylorus reach several centimeters below the inter-iliac line.

The stomach wall has three muscle layers—longitudinal, circular, and oblique—the last extending as a sling over the fundus and disappearing near the pylorus. The circular muscle fibers are thickened at the outlet, forming the pyloric sphincter. The mucosa is covered by mucus-secreting columnar epithelium which is pierced by many test-tubelike glands which are lined by two different types of cells—one secreting the hydrochloric acid and the other pepsin. The glands in the pyloric part of the stomach contain no acid cells. This fact should be of great significance to those surgeons who speak of removing the acid-bearing area when the antrum is resected.

Gastric juice in man is a clear limpid fluid containing HCl up to a concentration of 0.5%. In invertebrates it is free of HCl. The chief ferment is pepsin. Rennin, a milk-coagulating enzyme, distinct from pepsin is found in all vertebrates. Nature appears wasteful to have rennin in the stomach of fishes. Gastric digestion consists of mechanical mixing of the food mass into a watery chyme and the breaking up by hydration of the large protein molecules into peptones. Fats and sugars are not changed except that the latter may be acted upon by the salivary ferments until acidulation occurs within the bolus. Absorption from the stomach is practically nil, not even drugs given in high concentration are absorbed. After complete removal of the stomach nutrition is not seriously impaired. In man at times an anemic con-

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dition develops. The function of the stomach is primarily that of storage and mechanical preparation of the food rather than actual digestion.

Since the function of the stomach is chiefly mechanical a knowledge of its mechanics is of the utmost importance. The inlet of the stomach is guarded by the cardiac sphincter. This structure hardly merits the name sphincter for it is difficult to identify anatomically. It is remarkable though how difficult it is frequently to express gas from the stomach in an anesthetized animal. Some have attempted to attribute a sphincter action to the diaphragm. This is probably not true for during the act of vomiting the diaphragm contracts violently.

The movements of the stomach itself depend on the degree of distension present. In the fasting state the stomach shows only slight variations of tonus. This state of rest lasts for an hour or two and then contractions of increasing vigor appear. These contractions come about twice a minute and are the source of the hunger sensation. These so-called hunger contractions are unlike peristaltic waves in that they are more vigorous and more extensive. Emptiness of the stomach alone is not enough to provoke hunger contractions. They are not increased by so-called appetizers. They are inhibited or changed to normal waves by soda or food or many drugs. Smoking is frequently effective in this respect.

In the full stomach contraction waves start in the fundus some distance from the cardia and run uniformly through the pre-pyloric part to the antrum and fade away at or near the pylorus. These waves appear about every twenty seconds and several may be present at different levels at the same time. Mechanical mixing of the food and emptying of the stomach are attained by these waves. Systole of the antrum does occur but it is probably not an important factor in the expulsion of the contents. The exact mechanism of the origin and conduction of these waves is not known. That a hormone factor is present was recently shown by Ivy by the transplantation of part of the stomach. Muscle continuity or intact nervous supply is, fortunately, not necessary, which permits the resection of V-shaped pieces or segments of the gastric wall with none or only slight interference with emptying.

Consideration of the emptying time requires a few words regarding the pylorus. As stated the pylorus is a definite thickening of the circular muscle fibers. This mass of circular fibers is separated from the corresponding layers of the duodenum by a fairly definite ring of connective tissue. Most of the longitudinal fibers also end at this fibrous barrier; some pass and appear continuous with corresponding fibers of the duodenum. The lymphatics of the pyloric end terminate abruptly at this connective tissue barrier. Here we have an anatomic basis for the absence of spread of carcinoma into the duodenum. This anatomic barrier is not a perfect physiological barrier for it seems that gastric waves can excite duodenal waves and duodenal waves influence the tonus of the pylorus.

Many factors in the control of the pylorus are definitely established but its entire mechanism is certainly not known. That a nervous factor is present is demonstrated daily in clinical work. Yet the pylorus functions well with all its nerves cut. The consistency of the gastric contents is of some importance. The fullness or emptiness of the duodenum is a most important factor. The character of the duodenum contents—whether fat, neutral, or isotonic—are other factors influencing the closure of this sphincter. Fats and acid contents close the pylorus. More recently it has been shown that the osmotic pressure of the duodenal chyme may be of as much importance as its acid or alkaline reaction.

Regurgitation from the duodenum into the stomach is a normal reaction when the stomach approaches an empty state. This tends to keep the free acidity low just at the time when the neutalizing influences of the food are disappearing.

A consideration of gastric secretion resolves itself into that of the fasting and digesting stomach. The empty and resting stomach always contains a few cc. of juice—up to a hundred cc. This continuous secretion normally may amount to little but in the diseased state it may be profuse and require treatment.

Digestive secretion may be divided into three phases—cephalic, gastric, and intestinal. The smelling, seeing, and chewing of food provokes a copious flow of juice. This cephalic or appetite secretion is a reflex reaction and section of the vagi abolishes it. The presence of the food in the stomach causes the secretion of more juice and

is known as the gastric phase. Mechanical stimulation of the gastric mucosa, contrary to older beliefs does cause a secretion. Some foods on entering the stomach produce an immediate flow of juice, others only after being acted on by the appetite secretion. It seems that the glands are stimulated by hormones present in the food or produced in it by digestion rather than through a local reflex.

The digestion in the upper intestinal tract also provokes a flow of juice. This may be a reflex reaction but more probably is due to hormones absorbed from the intestines.

Many substances are used clinically to stimulate gastric digestion. Actually the so-called appetizers and bitters depress secretion. Alkalines probably depress secretion, rather than stimulate it, a point of great importance to those who treat peptic ulcer with these drugs.

After this brief outline of normal physiology, I wish to mention changes caused by disease or operation.

A gastric or duodenal ulcer often increases the vigor of the gastric contractions. Emptying time in the earlier stages is shortened. When the lumen of the pylorus is diminished the emptying time is lengthened. Cancer interferes with the gastric waves in proportion to the extent of the destruction and infiltration of the muscle walls. Emptying may be delayed by this loss of motor activity but more often by actual narrowing of the lumen of the pylorus. Gastric activity is also profoundly influenced by the mental state and lesions distant from the stomach, especially those in the peritoneal cavity.

After the Bilroth or Polya operations the stomach, immediately post-operative, empties slowly. When the suture lines are healed emptying is quicker than normal even though the gastric waves are less vigorous than in the intact stomach. After gastroenterostomy the emptying time is also shortened. The food passes through the added stoma only in proportion to the obstruction at the pylorus. The peristaltic waves are diminished. This and the lessened emptying time are probably greater factors in the control of ulcer pain than the factor of increased neutralization of acid.

Gastric secretion varies enormously not only in disease but also in apparently perfect health. In many old people the stomach secretes no HCl. In anemic, cachectic, and asthenic states, the acidity of the juice is diminished and often absent. Cancer cachexia lowers the acidity and when the cancer is in the stomach actual loss of secretion surface is another factor which tends to lower or abolish the secretion of HCl. In gall bladder disease the acidity is often reduced.

In peptic ulcer the acidity as determined clinically is usually but not always increased. This is not due to a secretion of more than normal acidity but rather to an increased secretion of normal concentration. In a fairly large percentage of peptic ulcers secretion is actually diminished and in a few it is difficult to demonstrate any acid.

Increased secretion occurs with other abdominal lesions—as appendicitis, colitis, and at times gall bladder disease.

After gastro-enterostomy the acidity of the gastric contents as determined clinically is diminished. This as already stated is due to the increased rapidity of emptying and to a lesser extent to the increased regurgitation of duodenal contents.

After the different gastric resections now so vigorously advocated in the treatment of peptic ulcer, about half have no free HCl and in the rest it is markedly reduced. This reduction however is not due to the removal of the acid bearing area, as claimed, for the greater part of the segment removed has an alkaline secretion; but rather to many other factors, among which are: the more rapid emptying of the stomach, diminution of psychic secretion because of lessened appetite, diminution of stimulus to secrete which comes from the intestines since the food is poured into the bowel in an undigested state, and finally, to the greater regurgitation of alkaline juice from the bowel. In extensive resections the acid secretion surface is undoubtedly lessened but this is not the chief cause of the anacidity which frequently follows.

INVESTIGATION OF THE STERILE COUPLE*

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Sterility always has been a subject of interest to the gynecologist, but until recent years the interest was chiefly in the classification of its

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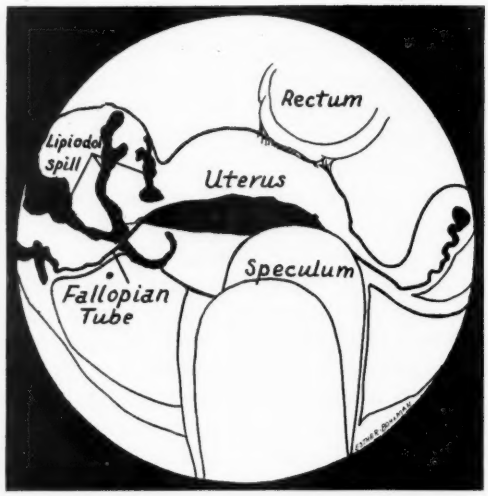
etiologic factors. The diagnosis of sterility rested mainly upon the passage of a span of years—three or more—without offspring, a bimanual examination of the wife and a condom specimen from the husband. A couple may be sterile at the time of marriage, or may acquire the condition from subsequent causes. To establish a diagnosis of sterility it is not necessary to wait any given number of years after marriage before beginning an investigation. Whenever the couple or one of them presents the question of childlessness it is quite appropriate that an examination be made. The point I feel should be emphasized is that the failure to reproduce be laid to the couple, rather than to either partner, until the actual cause is found. It is only by approaching the subject from a neutral viewpoint that an unbiased opinion can be given.

From 10 to 15 per cent. of marriages are said to be sterile. Of these the male is responsible directly in from 30 to 50 per cent. and indirectly in an inestimable number. From these facts it becomes obvious that a close coöperation between the gynecologist and the urologist is essential in successfully attacking this problem. That the internist and radiologist are frequently called upon, as well, will be seen in the presentation of our cases.

In Boston a group has formed for the complete investigation of sterile couples which consists of gynecologist, urologist, internist, and endocrinologist. A conference is held by them every week to discuss the final diagnosis and to decide upon the treatment to be followed. This scheme has proven very satisfactory in their hands. Investigations in sterility have proven far more interesting and fruitful since the advent of Hühner's post-coital examination and the Rubin patency test. I do not test for tubal permeability until I am assured of the presence of normal spermatozoa in the cervical canal. After I am satisfied that the male is competent and the lower genital tract in the female is clear, then the Rubin test is made. The patency test has proven to be more than a diagnostic procedure, possessing some therapeutic virtue as well, and opening up an avenue for the induction of pneumoperitoneum—an additional diagnostic measure of merit. New and interesting work is being carried out which promises to throw additional light upon the question of fertility. I refer chiefly to the vitamine E work of Evans, and the female sex hormone of Frank—substances which apparently have quite similar effects. The fertility studies of Macomber are also noteworthy.

Based upon the significant etiologic factors in the causation of sterility, and following more or less closely the classification of Meaker, we

Fig. I. (Print and interpretive drawing.) Sterility 5 years—history and physical examination negative Post-coital examination satisfactory. Patency test—positive 160 mm. to 120 mm. (high level). Lipiodol 7 cc. instilled into uterus. Roentgenogram—normal status. Beading left tube; profuse "spill" from right tube.



have adopted the following scheme of investigation of the sterile couple:

INVESTIGATION OF THE STERILE COUPLE

I. *Male* } *History*
Female }
(a) Past—(venereal)
(b) Present
(c) Sexual

II. *Male* } *Physical Examination*
Female }
(a) General
(b) Local (genital status)
(c) Laboratory
1. Complete blood including
(a) Wasserman
(b) Sedimentation
2. Urinalysis
3. B. P.

III. *Female—Cervix:*
(a) Normal—clear mucous
(b) Tenaceous mucous
(c) Inflammatory—(Smears)
1. Erosion
2. Ectropion
3. Muco-purulent discharge

IV. *Female—Post-Coital examination* (Hühner's test)
(a) Spermatozoa in vaginal pool and endocervical mucous one to 1½ hours post-coitum. (Numerous motile, morphologically normal)
If unsatisfactory:
Male (b) Condom or bottle specimen
(c) Urologic examination

V. *Female*—Tubal Patentcy test—(Rubin test)

Fig. II. Sterility 7 years; age 27; history and physical examination negative. Post-coital examination satisfactory. Patency test—positive 180 mm. to 60 mm.

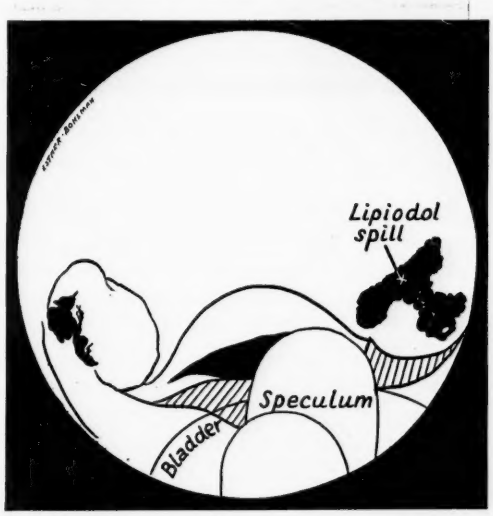
(a) Gas or air
1. With or without antispasmotic drug
2. Repeated patency tests
(b) Radio-opaque liquid
1. Iodized oil. (Fluoroscopic)
(c) Roentenogram. (With gas alone or combined with iodized oil)

IV. *Male* } *Endocrine*
Female }
(a) Basal Metabolism
(b) Sugar tolerance
(c) (No test for defective ovulation)

1. For an ideal investigation of the sterile couple a careful history of both partners is essential. A thorough investigation into the causes of reproductive failure often leads directly to the essential factor in one or other of the couple. Gonorrhea plays an important part. Syphilis plays but a minor part. Unsatisfactory or incomplete sex relations is not an uncommon finding; when it obtains corrective advice is required.

2. Both husband and wife should undergo a general physical examination. In this way infective foci may be located or constitutional disturbances may be found to be responsible for sterility. The local genital status is of course of highest importance. Hypoplasia is a significant finding. The displacements are of less importance than is usuaully attached to them.

3. Particular attention is given to the condition of the cervix. Not so much for its position or the size of the external os as to the presence of inflammatory lesions and muco-purulent discharge. Seventy per cent. of female sterility is due to chronic endocervicitis, according to Polak.



One litre CO_2 used. Lipiodol 5 cc. instilled into uterus. Roentgenogram—normal status. Lipiodol "spill" at both fimbriated ends.

Erosion and ectropion when encountered should be treated, perhaps best by linear cauterization. All purulent discharges should be cleaned up before proceeding with further tests.

Cervical acidity probably does not exist. A tenacious mucus may act as a barrier to spermatozoa.

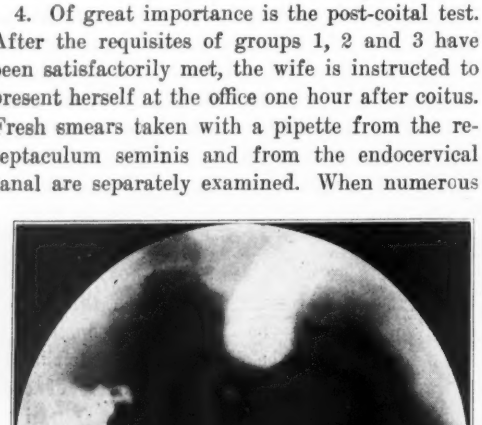
4. Of great importance is the post-coital test. After the requisites of groups 1, 2 and 3 have been satisfactorily met, the wife is instructed to present herself at the office one hour after coitus. Fresh smears taken with a pipette from the receptaculum seminis and from the endocervical canal are separately examined. When numerous motile and morphologically normal spermatozoa are recovered from the cervical canal, a great deal of useful information is obtained. First, the production of spermatozoa and the insemination of the cervix on the part of the male are satisfactory. Second, the cervical secretions present no serious hostility to the spermatozoa.

When the post-coital test is unsatisfactory, then an examination of a condom or bottle specimen of semen is required. If the latter proves satisfactory, the male partner is exonerated from blame, and further examination of the female passages is required. If the semen is found in the second test to be lacking in spermatozoa, or to contain only dead or deformed forms the husband is referred to the urologist for further investigation and treatment.

Only after a satisfactory post-coital examination is made should tubal permeability be tested.

5. A veritable gateway to investigation of the female generative tract has been opened up with the introduction of the Rubin test. Not only has this simple procedure proven safe and of definite diagnostic significance, but pregnancy has followed its use too frequently to be considered coincidence. Thus the therapeutic value of the procedure must be recognized. It has also led to a wider utilization of roentgenography of the pelvic viscera by means of transuterine pneumoperitoneum. By this method the viscera may be clearly visualized on the film so that any pathologic alteration of size, form or density, or the presence of adhesions may be shown. Furthermore, with the addition of the radio-opaque liquids, notably iodized oil, the lumens of the uterus and fallopian tubes can be visualized, thus locating obstruction, or establishing patency beyond doubt by recording "spill" into the peritoneal cavity. *The roentgenogram after the combined use of iodized oil and pneumoperitoneum yields the maximum information concerning the pelvic viscera obtainable without laparotomy.* I have used these diagnostic methods separately and combined in a large series of sterility cases and believe that the diagnostic precision of the roentgenograms are of the utmost importance in deciding upon the treatment to be instituted. As a record of the pelvic status they are indeed of greater value than an opinion after the ordinary methods of examination.

6. Neither the husband nor wife may be actually sterile and yet the couple may live together for years without producing offspring.



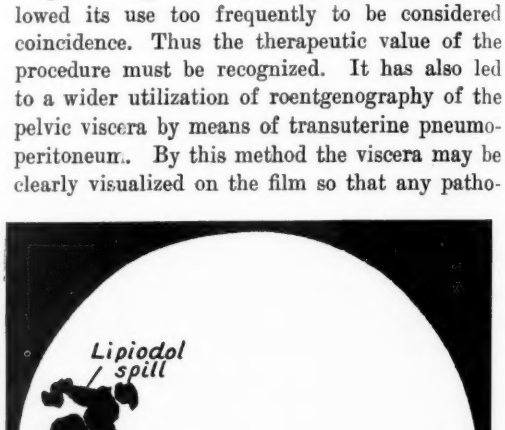


Fig. III. Sterility 2½ years. Age 27. Preliminary examination satisfactory. Post-coital test normal. Patency test—positive—120 to 50 mm. One litre CO_2 used. Lipiodol 7 cc. instilled into uterus. Roentgenogram—irregular uterine cavity. Ampulla of both tubes dilated. Tubes patent.

The so-called *incompatibility* is usually but a sign of relative infertility. This may be due to certain vitamine deficiency of one or both partners, or to an endocrinal disturbance. Low basal metabolic rate was found by Litzenberg in a group of women who were apparently sterile. A number of these became pregnant after thyroid therapy. I have failed to observe similar low basal rates in a considerable group of patients upon whom the metabolism was tested. Disturbances of the thyroid and pituitary glands as well as of the ovary are recognized as causes of infertility. Protein starvation in certain obese women is thought by Meaker to lead to infertility.

The male is subject to similar constitutional errors. Exhaustion of spermatozoa by sex excesses, by disease, or by endocrine disturbances is well recognized by all students of sterility, and may be improved by more or less prolonged periods of rest. Macomber has found great variations in the number of spermatozoa in the semen in direct relation to the state of fertility. He considers between 100,000,000 and 150,000,000 per cubic centimeter to be the normal count. There is no known test for the presence of normal ova comparable to the spermatozoa examination, and for the present one must be content to rely upon the menstrual history, palpatory findings, and roentgenographic evidence of ovarian integrity. Experimental work with female sex hormone bids to shed light on this phenomenon.

CASE REPORTS

Case I. Mrs. B. R., aged 23 years; married 4 years; never pregnant; no contraceptives used. History and physical examination revealed no cause for sterility. Genitalia normal to palpation.

Post-coital examination: Numerous motile spermatazoa recovered from the cervical canal one hour post-coitum.

Patency test performed (July, 1924)—C. O_2 passed through both tubes at 140 mm. to 80 mm. One litre of the gas was permitted to flow into the peritoneal cavity. Roentgenograms revealed no pelvic pathology.

March, 1925—Pregnancy.

September, 1926—Pregnancy.

Case II. Mrs. D. M., aged 22 years; married 3 years; never pregnant; previously treated for leucorrhea and vaginismus. Preliminary examination negative.

Patency test performed (Dec., 1925)—satisfactory—100 mm. to 80 mm. One litre of carbon dioxide introduced into peritoneal cavity. Roentgenograms corroborated findings of normal genitalia.

August, 1926—Pregnancy.

Case III. Mrs. S. C., aged 30 years; married 4 years; never pregnant; no contraceptives used. Gonorrhea three years ago successfully treated. Uterus retroverted. Cervical smears negative.

Post-coital examination—satisfactory.

Patency test (June, 1926) apparent obstruction—200 mm. lipiodol 3 cc. instilled into uterus. Uterine cavity and left tube filled—apparently patent. Right did not fill.

February, 1927—Pregnancy. (Normal delivery—November, 1927.)

Case IV. Mrs. C. B., aged 34 years; married 7 years; no pregnancy. History and physical examination negative.

Post-coital examination satisfactory.

Patency test—200 mm.—no evidence of patency. (March, 1926.) Repeat patency (May, 1926) under atropine; 200 mm.; apparent obstruction; lipiodol 3 cc. instilled into uterine cavity. Roentgenograms revealed typical triangular shadow of the uterine cavity, but no tubal filling.

Diagnosis: Tubal obstruction at uterine cornuae.

COMMENT

The mode of procedure adopted in attempting to solve the problem of the childless marriage is here briefly outlined. It is expected that by a careful study of both partners evidence of lowered fertility may be found in a definite proportion of patients which when corrected will lead to successful issue. It is only by determining the cause of failure that we may seek to treat the condition satisfactorily. Often more than one cause is present in one or both partners.

It is of more than passing interest that while the tubal patency test is essentially a diagnostic procedure, that pregnancy follows its performance in a definite percentage of cases without any other treatment being instituted. Thus the patency test becomes a therapeutic measure in sterility in a selected group of cases.

I have observed fifteen pregnancies following this method in the past five years. Pregnancy occurred immediately in two cases, within six months in several cases, and as long as four years after the test in one case. Sterility had been apparent in these patients in from three to ten years before the investigation was made. In two cases in which fimbrial obstruction was diagnosed, salpingostomy was followed by pregnancy within six months. One patient delivered at term and one at seven months; both babies lived.

Finally, as to the safety of the tubal patency test, pneumoperitoneum and iodized oil instillation as diagnostic aids; I have experienced no accidents or serious complications in over three hundred and fifty pneumoperitoneal injections. These were partially by the uterine route (Patency test) and part transabdominal inflations. Lipiodol was used in addition to carbon dioxide in ninety cases without any harmful effect. The combination of the iodized oil and pneumoperitoneum has proven a means of complete and accurate roentgen diagnosis of the female genitalia, of great value in sterility.

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THE DIAGNOSIS AND TREATMENT OF NERVOUS DYSPEPSIA*

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General Remarks. The progress of Medical Science has made it professionally dangerous to hazard a diagnosis of nervous dyspepsia without a painstaking process of excluding all other possible conditions that might cause the patient's symptoms. Like the generic diagnosis of neurosis, nervous dyspepsia of a few years ago has been found too inclusive, and a thorough study of patients removes more and more from such a classification. The examining physician may suspect a gastro-intestinal neurosis to be present at the beginning of his acquaintance with patient, but it should be the last diagnosis he is willing to make. A quick diagnosis of neurosis or nervous dyspepsia is a prolific source of professional chagrin and often causes a prolongation of the patient's illness by reason of faulty diagnosis.

For our purpose gastro-intestinal neurosis may be included under the more generic group of nervous dyspepsia; it is perhaps the only true form of nervous dyspepsia. If all patients are excluded who do not have any possible basis for their symptoms as being part of a defense mechanism, the numbers called neurotic will shrink to a remarkably small figure. If the few remaining are re-examined frequently in accordance with a working hypothesis that there is always something wrong (physically) with the nervous patient, the number will shrink to a tiny fraction of the original group studied. Truly neurotic patients may be successfully treated by the neurologist or the gastro-enterologist. The neurologist may show the patient that the symptoms are not emanating from a serious source and ultimately bring about a clinical cure. The gastro-enterologist may secure the same result by correcting only functional abnormalities. He may do this by placing the patient on a regimen of diet, exercises, rest, recreation and mild sedatives which produces a better sense of physical well-being and serves to detract the patient from his introspection.

A very few years of experience with introspective gastro-intestinal patients may lead one to adopt an aphorism of thought that when one knows nervous dyspepsia, he knows gastro-enterology, if one may borrow from the Oslerian dictum concerning syphilis and medicine. It becomes incumbent on the examiner to exclude the dyspepsias of organic sources, such as gall bladder, gall stones, appendix, achylia gastrica, cancer, colitis, etc., and narrow the possibilities down to a group that may be included under the generic nervous dyspepsia.

Nervous dyspepsia is protean in nature. Since there are no clear cut boundaries, the reactivity of the patient's general nervous system controls the complexity of complaints and symptoms. The highstrung and introspective housewife will have more symptoms than her busier and more active or stolid laundress. The hypersthenic and ambitious business man who takes his worries home with him at night is more likely to have nervous dyspepsia than manual laborers of any habitus. Disregarding psychical factors, the hyposthenic and sthenic individuals are more frequent sufferers than those of hypersthenic physical habitus. To make a diagnosis of gastro-intestinal neurosis in any of these dyspeptics without finding sufficient personality defects and insufficient physical cause for the symptom complex should be considered malpractice. To make a diagnosis of nervous dyspepsia without first

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making painstaking efforts to exclude known organic sources is as bad, if not worse.

Etiology. The most frequent etiological factor of nervous dyspepsia is the effect of drugs. This included a fairly largely percentage due to the excessive use of tobacco. Because of individual responses to the use of nicotine, no definite amount consumed can be called arbitrarily moderate or excessive. In one patient the use of a specified amount of tobacco may be the sole cause, while in another it is only a contributory cause. The most common cause, however, is due to the lay habit of bowel-tinkering with drugs. The patient notices that he feels better after relieving a temporary sluggish bowel condition by catharsis. If his dietary and exercise habits are not conducive to prompt re-establishment of normal colonic rhythmicity, the intervals between catharsis is gradually shortened until he arrives at a state in which bowel regularity cannot be maintained without frequent catharsis in spite of an intrinsically normal bowel. Many of the drugs encourage gas formation or hyper-peristalsis. Many of the proprietary pills in common usage contain atropine as an anti-spasmodic. As the patient increases the number of such pills taken, he may be more or less constantly under the influence of its paralyzing action. Since its prolonged effect tends to make it cumulative, such patients may be rather acutely distressed when they may add atropine—containing coryza or asthma proprietaries to their drug burdens. It is folly to expect normal bowel rhythmicity if the nervous control of the fecal column is meddlesomely disturbed.

Dietary indiscretions are more often precipitating causes for such dyspeptic syndromes than a primary cause. The habitual use of a poorly balanced dietary, however, may be a primary cause. A constant use of a diet of relatively concentrated foods with small residue such as meats, bread, potatoes, gravies and sweet desserts with little green vegetables or fruits is a common detail of the patient's history. After the condition is once established the patient may restrict the variety and quantity still further without satisfactory relief. They often complain that all foods disagree. After a few days of such trouble the patient becomes thoroughly frightened at his apparently serious condition and thereby adds an emotional factor to his already heavy burden.

The more unpleasant emotions as grief, fear and worry cause a state of acute or chronic disturbance of gastro-intestinal rhythmicity. Such interferences with motility and secretion engenders excess gas formation and undue absorption of indol, skatol, butyric acid, histamin and other relatively noxious digestion by-products. It may be mentioned here that it is not always the constipated person who is the most severely disturbed by these undesirable substances. Some of the most severely intoxicated patients are those with loose or diarrheal stools. The most common organism present which seems to be an etiological factor is the B. Welchii. This is particularly true in cases of carbohydrate intolerance[1] or where the mechanism seems to be due to a spastic colon. In a series of spastic colons studied at this clinic from the standpoint of the presence of this organism the incidence was 95 per cent. as contrasted to the general incidence of 35 per cent[2]. The B. Welchii is a prolific producer of histamin[3] but it also produces a neurotoxin[4] and a hematoxin[5]. Most of the long-standing cases are nervously irritable and usually have a slight secondary anemia. A smaller number of patients with atonic colons and increased gas formation without the presence of B. Welchii may be just as dyspeptic. Such patients are forced to absorb much of their gas. The amount of hydrogen sulphide and methane they undoubtedly absorb could account for much of their malaise and their introspective symptoms.

Symptomatology. The composite symptomatology of the nervous dyspeptic is characteristic. The symptoms are present but without any apparent pathological defect of sufficient importance to account for his degree of complaint. There is discomfort after meals varying from a feeling of distention to pain. The pain is usually in the upper abdomen, but often under the heart and usually interpreted as heart pain by the patient. If the left upper quadrant is sufficiently distended, pain may be referred up to the base of the neck and the tip of the left shoulder. Sometimes there is a feeling of soreness over the lower half of the chest. The patient has spontaneous and induced belching. Regurgitation of small quantities of stomach contents usually occurs at some time. Nausea

sometimes occurs but rarely is there any vomiting. A full, globus-like sensation in front of the neck associated with a slight nausea may eventually lead the patient to induce emesis. The skin of the face not infrequently is suffused with warm perspiration, while the hands and feet may be moist and cold. Sooner or later the patient becomes heart-conscious and usually is dismayed to find what he believes to be a weak and irregular radial pulse. As a rule the palpitation complained of is not found by the physician, but a rather slow and regular pulse. The patient usually has been conscious enough of heart movements to feel two sensations during the cardiac cycle and therefore estimates the rate at about twice the actual rate. Not infrequently the fear engendered by these observations does cause a slight increase in the cardiac rate and respiration is increased somewhat in rate and depth so that a mild overventilation alkalosis may add to the discomfort. Such periods of anxiety leaves the patient more or less constantly in the state of fear and irritability. As a rule the patients are easily fatigued during the day, and their ambition is considerably in excess of their physical strength. They retire in a fatigued state only to awaken completely sometime after midnight to spend one to three hours mulling over their troubles. Sleep is usually fitful and disturbed by unpleasant dreams. Occasionally a patient will awaken from a horrible dream to find the heart-consciousness and a sensation of respiratory distress present. Such acute and rather dramatic attacks awaken the patient from four to six hours after the evening meal. If the patient has not learned to relieve himself by warm enemata, the physician is usually called and not infrequently quiets the patient with narcotics. The physician usually finds the patient in a state approximating the appearance of mild shock. Many such attacks have been attributed to hysteria. Other patients may not be disturbed except to awaken one to two hours before their appointed arising time. As a result of such disturbance of sleep they arise feeling more fatigued than when they retired. Not infrequently there is a complaint of stiffness of the muscles, especially of the dorso-lumbar region and extremities which wears off after being up two or three hours.

Pathological Consideration. The pathology of nervous dyspepsia is at present to be considered functional. One must not overlook the fact that the nervous dyspepsia group still included more patients suffering from symptoms originating from some organic cause than from purely neurogenic sources. It is doubtful that medical science can ever completely take all such organic cases out of this category. Even the patient with a gastro-intestinal neurosis elaborates symptoms about some functional digestive disturbance. The spastic colon with its frequent association of B. Welchii infestation is less frequently found in the truly neurotic patient than the atonic and redundant colon or visceroptosis. The patient need not have a neurosis or even be neurotic to suffer from so-called nervous dyspepsia. In its ultimate analysis, the symptoms of other clinical entities are elaborated by integration of nervous impluses. The difference in this case is that the symptoms arise from organs with functional disturbances, but which are otherwise capable of normal capabilities. In other words nervous dyspepsia has an organic basis just as surely as the symptoms of other clinical entities and is, therefore, not amenable to psychotherapy alone. The differential diagnosis is difficult since it must be made by a process of exclusion. It is, therefore, a diagnosis that can be safely made only after the most careful and painstaking history and examination, and perhaps ninety-five per cent. of the findings of the examination will be negative results. The gastro-enterologist must follow a routine for excluding such intrinsic diseases as gall bladder or biliary diseases, peritoneal adhesions, gastro-intestinal ulcerations, gastritis and achlorhydria, carcinoma, appendicitis, colitis, diverticulosis, tuberculosis or other infections, and last but not least hemorrhoids and fissures in ano. Extra-gastrointestinal lesions, such as pulmonary tuberculosis, central nervous system lues, spinal cord tumors, combined system diseases, intercostal neuralgia, herpes zoster, arthritis, kyphosis or curvature of the spine, angina pectoris (with abdominal radiations), pelvic lesions and dysfunctions, and even polycythemia vera, pellagra and chronic fatigue states. Many other clinical entities may have to be thought of only to be excluded. Space is too limited here to detail the process of a complete differential diagnosis. The usual findings in nervous dyspeptic patients are spastic colon, atonic and redundant colon or visceroptosis.

TREATMENT

The treatment is to be approached with the viewpoint of re-establishing adequate gastro-intestinal rhythm, influencing bacterial or dietary conditions, improving general hygienic habits and breaking up introspective tendencies.

Normal motility is re-established by mechanical means. In both atonic and spastic colons plain agar-agar in amounts of one to three heaping tablespoonfuls daily, or mineral oil from one-half ounce (15 cc.) to two ounces (60 cc.) daily, are valuable. It is not usually desirable to combine the agar and oil. The spastic colon may do better with oil by mouth and oil enemeta at regular nightly intervals. A bulky diet is essential, but in spastic colons, the cellulose must be smooth and non-irritating. The patient with the atonic colon should use cold drinking water as a rule, and hot water should be used by the individual with the spastic colon. It is desirable that both patients start the day off by drinking water on arising each morning. After, or before breakfast, as suits the individual habits, the patient should go to the stool and leisurely encourage the bowels to move. It is rather surprising how such a leisurely habit of encouraging the bowels to move at regular periods from one to three times daily will often accomplish the improvement of the patient's general sense of well being. Frequently the patient is able to dispense with the use of agar or the oil by cultivating such a habit time.

The change in the bacterial flora of the intestines can be made without instilling any faddish ideas into the patient. If the stool analysis shows that there is a putrefactive reaction, a diet containing a higher percentage of carbohydrates may be sufficient. This favors the development of B. acidophilus which in turn overgrows the putrefactive bacilli or B. Welchii. If the patient has a carbohydrate intolerance, the starch and sugar must be restricted or else fed in a different form such as dextrin or lactose in relatively large quantities to accomplish the same result. Where B. Welchii is the offending organism, it is also well to correct any hypoacidity the patient may have and to add the citrous fruit acids in fairly large quantities to the diet. The gas formation from whatever bacterial source may be inhibited somewhat by bismuth subnitrate, but sodium benzoate is better and may be administered in ten grain doses (0.6 gm.) made up in solution. If given with small amounts of a saline cathartic, it is carried well down into the intestines before it has much opportunity to diffuse out and be absorbed high up in the intestines. It is decidedly useful even when given with the meals in the same dosage. This drug inhibits gas formation in 0.1 per cent.[5] It is by such means that the upper part of the intestine may be cleared of undesirable bacteria until normal motility and secretions can keep it clear.

The patient's hygienic habitus must be investigated and changed so that there is a restoration of sufficient rest, sleep and relaxation and the proper amounts of exercise enjoyed. These patients usually have far more ambition than endurance and they must be trained to budget their energy to meet their daily requirements. They need various degres of strenuous physical exercise and the majority will be benefited by a series of abdominal muscle calisthenics. Hot baths are beneficial if not taken too late in the evening. Sedative (tepid) baths are desirable if taken before retiring. The nervousness and state of tension may be combated with drugs if properly given. Ipral, two to four grain, (0.13 to .25 gm.) may be given before retiring. This should be reduced in amount as the patient is able to dispense with it. Veronel in one grain (0.065 gm.) doses three to four times during the day will usually be sufficient to secure restful sleep at night. In spastic colon cases it is desirable to add atropine in 1-500 grain (0.00013 gm.) doses to the veronal (Soper). Besides the cumulative sedative effect of the veronal, it exerts a slight stimulative effect on the sympathetic nervous system. This relaxing effect on the colon is, therefore, complementary to the atropine effect. From time to time the patient needs reassurance and some simple lectures on the physiology of digestion. Introspective patients do better if they think they know why they are carrying out the physician's instructions, and it is just as well for them to be correctly informed about their functions as following the will-o-the-wisp of the faddist.

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MEMBRANOUS COLITIS DUE TO RECTAL GONORRHEA

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Membranous colitis is a disease of the colon which is characterized by the appearance of membranous tubes in the stools. A nervous disorder has always been considered to be the cause of the disease. It may be admitted that neurasthenia or some other nervous condition plays an important rôle in the causation of membranous colitis. However, the following case report seems to prove that aside from the nervous element there is often an infection responsible for the disease. Removal of the infection improves the condition.

Case report: The patient, Mr. A. G. an Italian, 40 years old, married, gives the following history: For the last two months he has had slight irregular pain all over the abdomen. He complains of peculiar noises in his abdomen and of a constant desire to evacuate his bowels. Patient is very much afraid he might have contracted some venereal disease. He has never had gonorrhea or syphilis before. During the last two months he lost 15 pounds in weight.

The examination shows a pale looking medium sized man of rather nervous, neurasthenic behavior.

The pupils are equally wide and react to light. Tonsils and teeth are negative. There is a nervous twitching around the angles of his mouth, and the tongue trembles when protruded.

The chest shows negative heart and lungs. Blood pressure 145/80.

The abdomen is tender all over, but there is more tenderness in the left lower quadrant. The reflexes are exaggerated.

X-ray findings: Fluoroscopic screen examination shows negative heart and lungs. After the administration of a barium meal the stomach is normal in size, outline and motility. The intestinal tract is negative. The barium reaches the sigmoid in nine hours.

Rectoscopic examination shows considerable redness of the mucous membrane of rectum and lower sigmoid. In places there is an accumulation of pus. Smears of this pus show an abundance of pus cells and intracellular diplococci, resembling typical gonococci.

The genito-urinary tract shows no evidence of any present or past gonorrheal infection.

Laboratory examinations: The urine contains a trace of albumin and some hyaline casts. The blood gives a negative Wassermann test and a negative gonorrhea fixation test. White blood count 7,200. Red blood count 4,500,000. Blood picture normal. The gastric contents show free hydrochloric acid 19 and a total acidity of 35. The stools present a large amount of mucous shreds and tubes partly adherent to the fecal matter, partly lying aside. Microscopic paraffin sections were made and the report given by Dr. R. H. Jaffe reads: "The specimen of feces contained whirls of mucous shreds surrounding clumps of cells with hyaline cytoplasm and pycnotic nuclei. Histological picture of a mucous colitis."

The patient was put on a non-irritating diet, charcoal was administered by mouth and a high rectal and colonic irrigation with a weak solution of silver nitrate was given every other day.

After four weeks' treatment the patient had improved remarkably. There was still a very small amount of mucous shreds in the stools. However, he had no pain, was much more confident, had gained five pounds in weight and was able to do his usual work. A rectoscopic examination made at this time showed still a slight redness of the mucous membrane but there was no pus and no gonococci.

SUMMARY

Membranous colitis is very often caused through a nervous condition. However, it may be due to an infection in the gastrointestinal canal. Careful investigation and proper treatment of the infection will bring prompt relief.

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SURGICAL CORRECTION OF THE CROOKED NOSE

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The crooked or deviated nose is a type of deformity that may either be developmental or acquired as a result of trauma. My experience in a large series of these cases has been that trauma plays a leading role in the majority, although frequently it may antedate the patient's recollection, having occurred early in childhood. I have observed many children a few weeks after a minor injury, in whom there was already apparent a slight thickening on one side of the nasal bridge and a tendency for the septum to crowd the lateral nasal wall. There can be no doubt that a slight displacement of the nasal bones during the formative period of childhood before ossification is complete may continue in the course of their development to grow in at a vicious angle and increase the deformity as full growth is attained.

Cases that develop in childhood usually show less tendency to exostoses, excessive thickening of the bones and fibrous adhesions of the periosteum to overlying soft tissues than those resulting from trauma later in life.

I find it convenient to class this deformity in three groups:

1. Simple deviation of the nasal bridge.
2. Deviation of the bridge with a twisted septum, the lower border of the septal cartilage usually projecting into the opposite nostril.
3. Deviation of the bridge with flattening and bony exostoses.

The correction of all of these types is done under local anesthesia by a technique which varies according to the indications.

Fig. 1.a—Incision within the vestibule.
Fig. 1.b—Introducing the saw. Note finger and thumb of left hand acting as guide on the outside.

Fig. 1.c—Chisel in position to sever the bridge at its root.

The procedure is as follows: After a preliminary hypodermic of morphin and atropine and a thorough irrigation of the nasal cavities, the skin over the nose, cheeks and lips and within the vestibule is thoroughly cleansed with ether and alcohol and then painted with half strength Tr. Iodine. The mucosa is cocainized by any one of the approved methods and the tissues overlying the bridge injected with novacaine through punctures within the nose opposite the free ends of the nasal bones.

An incision is made along the outer wall of the lower nasal cavity in front of the inferior turbinate following the margin of the pyriform aperture corresponding to the free end of the nasal bone and lower edge of the frontal process of the superior maxilla, and a little below it. Having penetrated the mucous membrane, a Freer sharp elevator is then introduced and the submucous tissues incised down to the edge of the bone. The periosteum is incised in line with the mucous membrane incision using the same instrument. A small periosteal elevator is then introduced and the periosteum elevated over the lateral side of the nasal bridge all the way up to the upper attachment of the nasal bone and medially as far as the dorsum. The naris is then packed temporarily and the same procedure followed on the other side.

In order to sever the nasal bones and frontal processes I find it convenient to use Joseph's right angle saw, the handle of which I have had reinforced with a larger grip which makes it easier to grasp. Using the periosteal elevator or septum elevator as a guide the saw is introduced on the flat along it beneath the elevated periosteum and then turned so as to bring its toothed edge against the bone. The guide is then removed. Using the thumb and index finger of the left hand as a guide over the outside of the nose the saw is then put to work by a to and fro motion and the bone sawed through to the inner mucous lining but not through it. The same procedure is carried out on the other side. I do not find it necessary to separate the muco-periosteum on the under surface of bones unless I am forced to remove a triangular wedge of bone. This is sometimes required in cases of extreme deviation and is carried out on the broad concave side of the deformity. It simply means that we have to make another cut through the bone, the upper end of which meets the initial cut at its upper end and the lower end of which is separted from the former by a distance of .5 to 1 cm. This outlines a triangle

of bone base down at the margin of the pyriform aperture which is removed by forceps after its inner muco-periosteal covering has been separated.

Before infracting the bridge it is often necessary to follow the saw cut across the root of

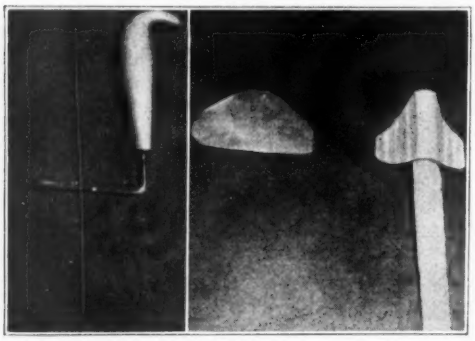

Fig. 2.a—Joseph saw with heavy grip.
Fig. 2.b—Copper plate cut and bent to shape nose. Note adhesive covering and pull up strip.

the nose so as to completely sever it. This is done by inserting a small flat chisel into the upper end of the saw cut and directing it toward the middle to meet a similar cut from the opposite side. The infraction can then be accomplished by pressure with the thumbs over the outside of the bridge on the convex side. If this fails to mobilize the nose by reason of incomplete severing of the bones or the resistance of the septum, it can be accomplished by using the Ash or Berne forceps introducing one blade through the incision over the outer surface of the bone, the other inside the nasal cavity; a slight rocking motion will produce the results. The loosened bridge can then be moved to the correct median position where it is held in place by a moulded copper splint properly padded.

The splint is covered by parallel strips of adhesive, is lined by two layers of cotton lint and held in place by means of adhesive strips brought around from behind the neck under the ears and over the cheeks. A small detail which helps materially in keeping the splint in place and preventing it from slipping downward over the cartilaginous portion of the nose consists of a strip of adhesive previously attached to the inner side of the splint and carried over it from below to be fastened to the forehead. This gives an upward pull which holds the splint snugly up to the glabella. These points are shown in accompanying illustrations. The nose is not packed. The splint is left in place at least two or three days after which there is no longer any danger of hematoma formation. It is then removed, the skin over the bridge mopped with alcohol and re-anointed and is replaced without tension and kept in place for the remainder of a week. By this time the bones will have begun to unite and the danger of the displacement will be at a minimum.

When the deformity tends to recur the fault may lie in several directions. In general it is due to imperfect mobilization of the bones at the time of operation or else it is caused by a deviated septum which is crowded in its new position and tends to spring back to its old position carrying the nasal bones with it into the old deformity. In the former instance the bones can be kept over to the midline and deviation prevented by maintaining pressure on the outside of the nose by means of padded splint, such as I have devised for the treatment of fractures. This will have to be maintained for about ten days longer in order to be sure of a firm union of the bones in the proper position. The other

Fig. 3.a—Copper splint in position. b—Picture taken just before splint was removed. Fig. 3. c—Copper splint reinforced by pressure on the outside.
Fig. 3. d—Type 3. Nose twisted and flattened.

cause of recurrence of deformity, namely a markedly deviated septum brings us to a consideration of the second group of this paper.

In this type of deformity we find in addition to a deviated nasal bridge, that the septum is twisted so that its higher portion is curved in

Fig. 4. a and b—Deviation with saddle nose. Front view.

Fig. 4. c and d—Same as No. 4 a-b. Showing result following ivory implant. Profile.

the direction of the convexity of the external deviation, often so far over as to come in contact with the outer wall of the nasal vestibule. Usually, also we find the free border of the septal cartilage displaced into the opposite nostril. This tends to carry the tip of the nose to the side opposite the external deformity, so that the dorsum of the cartilaginous nose is curved also. To correct the deformity, one has a choice of two methods. First, to resect the septum and at a later date correct the external deformity as outlined above. This method has the disadvantage of a possible weakening of the cartilaginous

Fig. 5. a and b—Deviation with depression above the tip. Front view.

Fig. 5. c-d—Same as No. 11. Showing result after ivory implant. Profile.

bridge so that following the second operation there is danger of sinking in of the dorsum just above the tip. The second method is to do a conservative operation on the septum, preserving as much of the cartilage as possible. Inasmuch as the septum is too high and too long to be accommodated in the midline after the nose has been straightened, the operation should aim to correct these faults. An incision is made along the free border of the septal cartilage for its full length and the cartilage dissected free on both sides as in the regular submucous resection except that in this case the cartilage is freed completely at its attachment in the dorsum. The projecting portion of the cartilage is removed with a sharp knife and the bend in the cartilage corrected by an incision along the full length of the curve.

If the redundency is sufficient to block the respiratory passage, enough cartilage is removed to insure free breathing. The incisions in the cartilage are made in the same direction as the curve. Once the cartilage is thus divided it is easy by pressure with a dull elevator to push the convexity over and permit aligning of the portions in midline. If the cartilage is responsible for a hump in the cartilaginous nose it can be corrected by excising a strip of the septal cartilage along its dorsal border which has been freed in the initial dissection. Where the septal deviation involves the bony septum, the cartilage

is severed at its junction with the bone and held aside with the blade of the Killian speculum and the bony projection removed as in the usual septum operation. If the lower portion of the vomer is involved the same procedure is followed except that the bone is not removed but is in-

Fig. 6. a and b—Simple deviation.

Fig. 6. c and d—Marked deviation of many years standing. Septum also twisted.

fracted after being severed with a chisel. This preserves the base on which the cartilage rests and makes for a more firm cartilaginous nose. The external deviation is then corrected as described above. The nasal cavities will have to be packed to retain the septum in its new position and to prevent the formation of hematoma. The packing is removed in 24 hours, but the external nasal splint is retained as in the uncomplicated case for three to seven days. These cases require the most scrupulous asepsis, as

Fig. 7. a and b—Simple deviation. History of two injuries years apart. Second picture taken immediately on removal of splint. Edema of lid still showing.

Fig. 7. c and d—Extreme deviation. Septal cartilage displaced.

there is always danger of infection which would surely lead to loss of septal cartilage and a saddle nose.

The third group comprises those in which in addition to the deviation, the bridge is also flattened and thickened by new bone formation. These are usually the result of great violence often associated with flattening of the cartilaginous nose and external scarring. A case of this type requires not only the two lateral saw cuts but also a midline cut so that the bridge is split as well as separated. Exostoses when present are removed with the chisel or planed down with a rasp. The loosened nasal bones are then brought into the median position so as to form a V by their junction and are held in place by the moulded splint as described above. Frequently we have found it of advantage to offer some support from within the nose by means of the intra nasal bar attachment to our nasal splint which we are in the habit of using for the correction of recent fractures. The bar is protected by a covering of thin rubber tubing and is adjusted to support the bones without undue pressure, the idea being simply to prevent their sinking into the old deformity, a tendency which the external moulded splint often encourages. It will be seen that in this way the loosened bones are held firmly in position both

from within and without, the nasal cavities being free for respiration and drainage, no packing being required. If the cartilaginous nose is also depressed it can be corrected at a subsequent operation by the implantation of a strip of ivory.

25 E. Washington St.

DISCUSSION

DR. HARRY POLLOCK, Chicago: I want to congratulate Dr. Salinger on his results in these cases. Any one doing this work in public institutions knows how difficult it is to obtain good results. In cases we have had in which there is a deviated septum, we usually take care of the deviated septum first. I saw a case this morning in which an attempt had been made to correct the deformity in the doctor's office, and the man was allowed to go home. He was in terrible shape. He complained that he could not breath through his nose. The septum was deflected to the side where the deformity was. He was much more concerned about his breathing than his deformity. The last time we had a discussion, Dr. Salinger was opposed to ivory. We have been using ivory for seven or eight years. We have used copper plates to hold the nose in position but we now use dental wax for our splints and we find it much better because you can adapt it immediately after the operation. The wax by heating can be made very flexible and adjusted to the patient's nose and it can be held in position that way. We found it better than copper. Copper is not flexible. The results here obtained I should say, were as good as any I have ever seen.

DR. S. SALINGER, Chicago, (closing): Where you have a deviated septum I would suggest it be corrected before the plastic is done and that most of the cartilage and bone be left. I have used dental wax but find this difficult for some reason—the wax seems to give. I have put a wax mold on and taken it off several days later only to find it bulged. The copper splint is more trouble to make, but I usually make an approximate splint in advance and shape it when I am through with the operation. If you line a copper splint or protect it with two or three layers of cotton lint, you have plenty of protection.

MOVABLE KIDNEY

LEWIS WINE BREMERMAN, A. M., M. D., F. A. C. S.

CHICAGO

Before one can understand the etiologic factors responsible for the development of movable kidney one must possess an accurate conception regarding a few of the normal features relative to the kidney. A normal kidney is held in place by the fatty capsule which invests it, the perirenal fascia, the suprarenal capsule to which it is adherent, the renal pedical, and by the pressure of the surrounding muscle tissue. The depth of the renal fossa is important as it is a well known fact that the fossa in females is much shallower than in males, thus accounting for the fact that females are more prone to movable kidney than males. It must not be forgotten that the perirenal fascia does not entirely surround the kidney, there is an opening at the lower pole through which the kidney moves.

The kidney normally is not a firmly fixed organ. It has some mobility in a range of 3 to 5 cm. with the respiratory excursion.

Movable kidney is one which possesses a preternatural mobility, but must not be confounded with floating kidney, which is one that wanders within the abdominal cavity and possesses its own mesonephron, while movable kidney has a greater range of motion than normal in a vertical plane behind the peritoneum.

Movable kidney may be classified according to the range of mobility. A kidney in which the lower pole can be definitely palpated below the twelfth rib may be considered a movable kidney of the first degree; when two-thirds of the kidney can be felt, a movable kidney of the second degree and when the entire kidney is below the twelfth rib a movable kidney of the third degree.

Movable kidney is the result of a definite congenital anatomical defect, occurring in women more commonly than in men, and develops in the right kidney more often than in the left. The reason for this is unquestionably due to the fact that women develop more congenital defects and more of the exciting etiologic factors which have a tendency towards the exaggeration of such defects. The condition being of the right kidney is due to the fact that this organ normally is lower than its fellow, the opening in the fascia is wider, the kidney fossa shallower, and is influenced to a greater extent by pressure of surrounding organs, naturally in the presence of defects the right kidney is the one more apt to be affected.

Trauma as an exciting etiologic feature, except long continued mild trauma must be disregarded. An injury of such violence as would tear a kidney loose from its attachments would more likely produce a subcapsular rupture of the kidney, a tear of the pedicle or injury to the intra-peritoneal organs of such severity as to require immediate surgical treatment. Histories

of patients at times show that symptoms seem to develop subsequent to an injury of some sort. This may be true, but trauma per se is not responsible for the pathology.

In all individuals who have movable kidney there are present certain and precise bodily defects ascertained by physical examination. Becher and Lennhof first called attention to this and outlined methods of examination which proved conclusively that anatomical defects exist with the presence of movable kidney. These investigators proved from the examination of many patients that movable kidney occurred more frequently in women with long trunks than in women with short trunks. They found by taking measurements from the supra-sternal notch to the upper margin of the pubic bone and dividing this by the result obtained by the measurement of the smallest circumference of the abdomen, multiplying by 100 would give a certain body index co-efficient. This they found in normal individuals to be 75. If the result was 78 or 80 or higher it was a positive indication that the individual had movable kidney. In individuals whose co-efficient was less than 75 subsequent examination showed normal kidney as far as the mobility was concerned. These measurements naturally are only approximate as they are not made between fixed points and consequently may show error.

M. L. Harris has experimented extensively and added much to the subject of movable kidney and its etiology. Harris divides the body into three zones—the upper, middle and lower by producing three planes transversely through the body, with the patient in the dorsal position. The circumference of the body is obtained at the tips of the tenth ribs and a mark is made on the body where the line bisects the median line. A line is made at the lower end of the sternum and the circumference is taken at this point. The distance is now measured from the supra-sternal notch to the superior border of the symphysis pubis and a line drawn connecting these. The measurement of each zone is then computed. The vertical measurement divided by the circumference at the tenth rib, the quotient multiplied by 100 gives Harris index No. 1. This estimation is similar to Becher and Lennhof findings, only using fixed points, thus being much more accurate.

In the comparative study of the different zones as marked off by Harris' method one will find that in the positive cases the middle zone is much elongated and contracted especially in the lower portion.

Harris went still further in his experiments as he found that there were certain fallacies and errors in his first schedule. He decided to use calipers and measure diameters instead of circumferences with the patient in the erect rather than the dorsal position. He suggests five diameters as follows:

1. The widest or upper lateral diameter. This is computed with the tips of the calipers resting at the widest point of a plane corresponding with the lower end of the sternum or about the seventh rib.

2. The middle lateral: the greatest distance between the lower edges of the tenth rib.

3. The lower lateral: the widest distance between the illiac crests.

4. The upper antero-posterior diameter: from the lower end of the sternum to the spinous process opposite.

5. The middle antero-posterior: from the median line in front to the spinous process opposite on the same plane as the middle lateral diameter.

Harris' conclusions are now based on accurate measurements made between fixed points. In computing Harris index No. 2, the middle lateral diameter measurement is divided by the upper lateral and multiplied by 100. This index refers, as can readily be seen, to the middle zone and depicts the relation between lateral diameter of the lower and upper ends; thus showing the amount of constriction of the lower end. These measurements prove the fact that the middle zone diminishes in size from above downward approximately 100 degrees more from side to side and 140 degrees more from before backward in the positive cases as compared to the negative proving unquestionably that there is a marked diminution in the capacity of the middle zone in the positive cases.

The symptomatology of movable kidney is classic and can be divided between symptoms referrable to the kidney and those referrable to tissue or organs outside of the uro-genital tract and those referrable to other organs and tissue within the uro-genital tract.

Many individuals have movable kidney of a greater or less degree and present no symptoms whatsoever and many cases will only present

symptoms resembling those associated with hysteria and neurasthenia, others will complain only of gastro-intestinal symptoms. There seems to be a definite sympathy between kidney disease and the gastro-intestinal tract, consequently errors in diagnosis are quite common. In any case of obscure gastro-intestinal symptomatology the kidney should be excluded as an etiologic factor before concluding definitely as to the diagnosis.

In those cases where the symptoms are of the uro-genital tract and point to the kidney pathologically it is of the utmost importance to study the case with the idea of reaching definite conclusions regarding diagnosis so that proper treatment may be instituted so as to prevent the ultimate loss of functional capacity of the organ.

The most prominent symptom is pain which may be of a varying degree from that of a slight lumbar ache to a severe colic paroxysmal and intermittent in character known as Dietl's crisis. Pain has been almost a constant symptom in the vast majority of cases seen by us, due, we believe, to the fact that almost all of our cases are well advanced in the course of the disease. Some of the cases will have continual pain, mild and aching in character, situated usually in the lumbar region, or may be transmitted to other locations of the uro-genital tract, again the pain may be intermittent, but severely intense. Not uncommonly the pain produced by a pathologic kidney may be transmitted to its fellow on the opposite side, more rarely to the other organs of the abdomen so that the gall bladder, appendix, stomach, and pelvic organs may be suspected as the primal focus of the pathology. Great care must be practiced in making a precise and complete examination of the patient to prevent errors of diagnosis. Errors have been numerous without a doubt as many true kidney cases that have come under our observation have been operated upon one or more times for other conditions without relief or secession of symptoms. We can not be too emphatic in stating that in every case of obscure abdominal pain exclude the kidney as the primary etiologic factor prior to diagnosing intra-abdominal pathology.

The pain associated with movable kidney is due either to pull and traction upon the nerve plexuses, tortion of the pedicle with the interference of the blood supply increasing intrarenal pressure with tension upon the capsule, or due to urinary stasis with the consequent pelvic dilatation and spasm. The pain accompanying the latter condition is severe, apt to be intermittent in character particularly when the ureter becomes twisted or kinked thus producing a complete urinary stasis with sudden pelvic dilatation and spasm; this is the usual condition associated with Dietl's crisis.

There are types of movable kidney where the symptoms are referred to other parts of the uro-genital tract and may apparently indicate that the pathology was not primary in the kidney. Many of these patients will only present a polyakuria with or without dysuria, which may be both diurnal and nocturnal in character. Attention will necessarily be called so prominently to the bladder that the diagnostician may arrive at an erroneous conclusion regarding the bladder as the seat of the pathology. In individuals in middle adult life who present a nocturnal micturary frequency, suspect a kidney lesion as the cause of the trouble.

Urinary changes are for the most part constantly evident and usually characteristically prominent from a diagnostic viewpoint. Casts, albumin, pus, renal, and pelvic epithelia, with occasional red blood cells may be discovered. The examining physician may suspect with the findings that the patient is a typical nephritic, but as a rule the other signs and symptoms of nephritis are rarely evident. Movable kidney which produces severe intermittent pain as the result of complete blocking of the ureter may resemble that type of pain common in nephrolithiasis.

The diagnosis of movable kidney should not present any unusual difficulties as the history, symptoms, and signs will lead to a careful physical examination which together with the x-ray findings will produce such a classic picture that an accurate diagnosis should be the result.

After the diagnosis of movable kidney is made the surgeon must carefully study the x-ray film which shows the position of the kidney, the position of the pelvis, the character of the ureter and its position and its course. From this interpretation he must outline the subsequent treatment.

The treatment of movable kidney is both palliative and surgical. In the mild types of this condition support to the abdominal muscle by belts or corsets may bring about relief and pre-

vent the progress of the symptoms. Palliative measures will not correct the condition, but acts mechanically in holding the kidney in such position that the drainage from the pelvis is not interfered with. These abdominal bands or corsets must be put on with the patient in a dorsal position with the hips elevated and the shoulders low and must be worn continually when the patient is up and about. Nothwithstanding the fact that palliative measures have been carefully followed by the patient the progress of hydronephrosis is not influenced and more radical treatment must be instituted. The only hope of saving a kidney of this kind is by a well planned surgical procedure. Nephropexy is the operation of choice and if the proper interpretation of the x-ray has been made one can work out a well adapted mechanical plastic operation which will assure the kidney being fixed in a position which will permit free drainage from the pelvis, and which also will prevent the kidney from assuming an abnormal position whereby the vessels of the pedicle are not permitted to function normally, interfering with the blood supply of the organ.

Nephropexy properly performed with a complete mechanical understanding of the result to be expected may be worked out in a very successful operation and in our experience followed with perfect end-results in the majority of patients.

We have perfected a technique for nephropexy which we consider ideal in these cases and which we will endeavor to give in detail.

The patient is prepared in the usual manner as for any major surgical procedure, except that we advise an intravenous injection of glucose just prior to the operation. The position on the table is the typical kidney position; patient on left side, with the under leg flexed well upon the abdomen. The kidney elevator is raised so as to increase the distance between the margin of the rib and the crest of the illium. Gas oxygen or ethylene gas is preferable for anesthesia. An incision is made perpendicular in character from the margin of the twelfth rib to the illiac crest, just outside the border of the erector spini mass of muscle. The major part of the success of the operation depends upon this exposure of the kidney; because an exposure made through the oblique incision commonly used will cause the kidney to become fixed in an abnormal position, causing the lower pole of the kidney to be rotated outward and anteriorly, resulting in a kinking of the pelvis and a continuation of urinary stasis, whereas the perpendicular incision allows the kidney to become fixed in a more or less normal position. The kidney being exposed it is delivered, the capsule slit from pole to pole and stripped posteriorly for about one-half inch. A fixation suture is placed in such a manner as to utilize both layers of the capsule posteriorly—its position in relation to the distance from the upper pole depending upon the amount of mobility of the kidney. A second suture is placed about one inch lower than the first through both layers of the stripped capsule in exactly the same manner as the first. These two sutures are not sufficient, as the pull on them will be about the junction of the middle and upper third of the posterior border. The kidney consequently will be rotated anteriorly thus constricting the pelvis and retarding urinary drainage. In order to overcome this anterior rotation place a third suture under the capsule of the anterior border in such a position that it will be equidistant from the upper and lower suture of the posterior border. This suture will prevent the anterior rotation.

The kidney is now dropped back into the cavity. The upper fixation suture is passed through the deep fascia as close to the twelfth rib as possible. The lower posterior suture is brought up within an inch of the first suture and passed through the deep fascia. The anterior suture is likewise passed through the fascia. The fascia is now closed with interrupted sutures. The three fixation sutures are now drawn taut and tied, thus bringing the exposed part of the kidney stripped of its capsule against the incision made through the fascia. The wound is then closed in the ordinary manner. The patient is placed in bed with the foot elevated about twelve inches, thus bringing gravity to our assistance, as the kidney will have a tendency to slip back into its normal fossa. This position is maintained for forty-eight hours with the patient in a dorsal position. The patient is kept in bed for about seventeen days and can usually leave the hospital in three weeks.

Following the technique herein described our results have been particularly good—relieving symptoms, producing good urinary drainage, and preventing the progression of hydronephrosis.

Subsequent examination of pyleograms have proved that the kidney is fixed in such a position as to allow the pelvis to drain freely and further shows that there has been no increase in the pelvic dilatation.

We feel that the success in the treatment of these cases depends primarily upon two very important factors namely; the perpendicular incision and the fixation suture in the capsule of the anterior border preventing anterior rotation.

In conclusion a few features may be repeated for emphasis:

Movable kidney productive of renal symptoms requires nephropexy.

Diagnosis depends upon a study of the symptomatology and the radiograms.

The radiographic study produces evidence of value in working out the mechanical details of the surgical technique.

The position of the patient on the table is important. The position of the patient in bed following the operation is definitely essential as an important aid in obtaining best end-results.

From our experience nephropexy performed upon properly indicated cases, following the technique herein detailed is an operation which will be followed by exceedingly gratifying results.

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THE EYE IN RELATION TO GENERAL DISEASES*

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No one can gainsay the fact that the ophthalmologist is the most fortunate in his selection of a specialty in that his problems have probably been more fully solved than in any other branch of medicine. For the most part they see what they are doing and they probably are able to prognose and accomplish according to a standard which few internists can undertake to equal. There is a fault, however, which this very perfection of skill may devolve as an almost necessary consequence. One may become so technical, so independent in his own methods, that he is apt to disregard or minimize the importance of a close relationship to the general profession.

The general practitioner, the internist, and especially the neurologist, can be greatly benefited and helped by consultation with the ophthalmologist. The ophthalmologist, however, in a very large proportion of his cases, is absolutely helpless without the aid of the man in general medicine. I make no distinction between general practitioner and internist, as the latter may be considered as a general practitioner who has eliminated surgery from his practice. We shall see, as we proceed, the absolute inter-dependence of the ophthalmologist and the general practitioner, one upon the other, the demands of the ophthalmologist on the general practitioner being far greater and more consequential than contrariwise.

Nowhere is this relationship more striking than in the branch of neurology. A very large proportion of the cases of brain tumors seen by the specialist in neuro surgery, is first seen and diagnosed by the ophthalmologist. Unfortunately, these cases are apt to slip by unnoticed unless a careful systematic routine of examination is maintained. In all cases of headaches, unexplained by refractive errors or muscle imbalance, careful ophthalmoscopic examination and recording of visual fields must be made before passing him along for further examination and study. Especially are we inclined to become careless in a case which we may have observed for a long time as a refractive case; for example, where the patient may develop an intracranial growth and the symptoms be easily ignored or misinterpreted. I have been taught, and have drilled the point into my students, that when a patient complains of a certain symptom, there is always some basis in fact. I may illustrate this question by a recent example which happened in my own office last Spring while I was in the Barnes Hospital convalescing from an appendix operation. An old patient called to have his glasses changed. He complained of inability to follow the lines readily while reading. He was in a hurry to catch a noon train going east. My associate, Dr. Alvis, made a careful refraction and found he had normal vision for distance and near with his own glasses, which could not be improved upon. His fundus revealed nothing abnormal. His peripheral fields were normal. The average man would have stopped there or even sooner. He remembered his training, however, and took

*Read before the Williamson County, Illinois, Medical Society.

the fields with the campimeter, disclosing a small homonymous paracentral hemianopsia, indicating hemorrhage in the visual cortex.

In skull injuries, the ophthalmologist naturally plays an important part, as the observation of the eyes and eye grounds often indicate to the surgeon the necessity for surgical interference, and even point to the location.

Not long ago I was called to examine a young girl who had been injured while riding in a bus. She was unconscious for several days. On regaining consciousness, she complained of not being able to see. The examination of her eye grounds revealed a normal disc and retina. Her vision was limited to perception of light, not sufficient to outline her fields, but her field for projection was limited to the right side of either eye. A diagnosis of cortical blindness due to hemorrhage in the left occipital region was suggested and corroborated by exploratory operation, resulting in complete restoration of vision.

Nystagmus is a condition which puzzles many. It may be hereditary which would include that due to albinism. Individuals have been known who could produce voluntary nystagmus at will. It may result from marked bilateral visual defect originating very early in life. Nystagmus occurs as a result of labyrinthine disease or as a manifestation of certain nervous disorders, such as disseminate sclerosis, syringomyelia and Friedrich's ataxia. Cerebellar lesions, inflammatory or in the nature of a neoplasm, are often associated with nystagmus. Cerebral lesions do not give rise to nystagmus.

Occupational nystagmus is familiar to all of you. Certain facts regarding its causation are clear. It is generally agreed that in mines where it is feasible to use naked lights instead of the Davy lamps, the condition is almost unknown. It is interesting to note that a much larger proportion of miners with nystagmus are blonds.

Ciliary alopecia or madarosis is generally the result of chronic inflammatory process, but may occur spontaneously as the result of a disturbance of the endocrine system. I have seen it occur in a young girl during adolescence where all of the lashes and eye brows became white and finally disappeared. This child recovered completely under treatment with ovarian extract.

It must be borne in mind that acquired tumefaction of the lid may result from mucocele of the frontal sinus, whereas, if congenital, encephalocele must be considered. These are rare.

An aesthesia of the lids is present in leprosy, and sometimes in the beginning of tabes. It may also be manifestation of hysteria. Mild forms of blepharospasm are usually due to error of refraction, but the intense tonic spasm, exclusive of the tics, means severe inflammation of the conjunctiva, cornea or iris.

Ptosis may be due to a local inflammatory process or possibly to tabes or a central lesion.

Color of the conjunctiva may be white and pearly as in anemia or phythisis, yellow as in icterus, or blue as in thinning of the sclera associated with brittle bones. Ecchymoses or hemorrhages in the conjunctiva, when not associated with injury, generally means, in adult life, focal infection. The vast majority of cases can be attributed to abscessed teeth. Whenever a child comes into our office with conjunctival hemorrhages, our first question is likely to be "How long have you had the whooping cough?" Phlyctenules or small pimples of the conjunctiva, usually on or close to the corneal margin, are held by most authorities to be tuberculous. Children affected by this disease have severe photophobia, and are usually improperly fed. Fresh air and sunshine with plenty of milk and cod liver oil with abstinence from sweets, secure the desired results.

Paralytic deviations of the globe are prone to sudden appearance and may increase rapidly in degree. They are frequently bilateral and often affect a set of muscles. They are often associated with other paralytic symptoms and are usually ushered in by diplopia and associated with vertigo. The paralysis is peripheral when the lesion is situated anywhere along the course of the nerve between its nucleus and its termination in the muscle.

Total ophthalmoplegia may be set down as peripheral, either basilar or orbital. Associated symptoms of the fifth nerve, like neuralgias and neuro-paralytic keratitis, and of the optic nerve, such as optic neuritis and optic atrophy are frequently present. If there are associated symptoms and if one notes besides these, symptoms pointing to trouble of the oblongata, the lesion may be called nuclear. These deductions refer to unilateral paralysis.

Conjugate paralysis or paralysis of the asso-

ciated movements is frequently observed in disseminated sclerosis.

Exophthalmos, if not associated with a local disease of the orbit, such as trauma, hemorrhage into the orbit, phlegmon, periostitis, emphysema, or involvment of one of the adjacent sinuses, is most usually met with in Basedow's disease. With this, of course, we have the associated Graefe sign of the lids and the weakness of convergence.

I may state in passing, that it is my belief that one of the earliest signs of exophthalmic goiter is insufficiency of convergence, and that whenever we find, in our routine examination of the eye muscles, this condition, we look for the other symptoms such as shortness of breath, tremor, moist palms, headaches and enlarged thyroid, and seek help from the general practitioner for the relief of these symptoms. One of the outstanding symptoms of a patient suffering from convergence insufficiency, is that of sleepiness during close work.

Exophthalmos may be formed from the rare growth known as chloroma, recognized by the bright green color of the growth and its especial predilection for the bones of the skull and dura mater; and may be further confirmed by the finding of myelocytes in the tissues and blood, as in leukemia.

The cornea may vary in size and shape, but is usually about 11 mm. in diameter. Keratoconus, or conical cornea is a disease of adolescence, occurring both in the male and female and is unquestionably influenced in the early stage by the local instillations of epinephrine and the building up of the patient's general physical condition.

Every practitioner should be able to remove a foreign body from the cornea or lid. As a rule the substance lies underneath the upper lid, and can be wiped off by simply everting the upper lid. A clew to the location of a foreign body is given by the localized pericorneal injection which is always present. Opacities of the cornea may be due to scars, which would be revealed by the history as a rule, as well as by a careful examination with focal illumination. In this case there is seldom vascularization. Active infiltration of the cornea, except in the very early stage, always shows pericorneal injection. This we find due to various general disorders. The severe deep general infiltration of the cornea or interstitial keratitis is practically always syphilitic and most usually congenital.

Other signs of hereditary syphilis are seldom lacking. Other forms of infiltration or ulceration, however, are found the result of focal infection. In such cases we seek the help of the general practitioner in a careful search which must include teeth, tonsils, prostate, gall-bladder, and gastro-intestinal tract. The focus may occasionally be most unusual.

A few years ago a patient, who was a traveller and living in Cleveland, Ohio, consulted me on account of recurring ulcerative keratitis. I referred him to Dr. Bruner and urged him to have a complete physical examination, preferably in a hospital. An old osteomyelitis of the tibia was found and treated by Dr. Crile, with a permanent cure of his ulcer.

Anesthesia of the cornea is sometimes found in tabes, although it is also found in hysteria and in glaucoma. Corneal hypoesthesia is part of the syndrome sensitivo-senorial hemianaesthesia and to organic lesion of the posterior part of the capsule, or extensive cortical lesion of the parieto-occipital region.

I am not going to bore you with the various reactions of the iris, with which, I take it, you are already familiar. There is one condition which my associate, Dr. H. L. Wolfner, and myself have reported as indicating high blood pressure in arterio-sclerosis, wherein the pupil is larger than usual, responds to light, but quickly rebounds to its first position.

It must be remembered also, that there are a few conditions in which the pupil will respond to light even though the patient cannot see, such as found in uremic blindness, and the blindness of post-basic meningitis, and puerperal amaurosis. These conditions are supposed to be due to the effect of toxins on the visual cortex.

Primary inflammation of the iris, when not due to local causes, may result from syphilis, gonnorrhea, acute infectious diseases, disorders of metabolism, such as diabetes, gout and hyperthyroidism; and tuberculosis. In many cases iritis may be due to focal infection. Needless to remark, the internist must help us in our search for the cause if we hope to effect a cure. Let me state here that it is my belief, that when a case is referred to the medical man by the ophthalmologist, he should suggest to him what to look for because the eye indicates it, and

the indications may otherwise be absent. Some internists are sensitive, and resent receiving suggestions from specialists who refer cases for examination. They feel that their examination should not be influenced in any manner whatsoever.

On the other hand, if the medical man, in referring a case for ophthalmologic examination, would briefly outline his own findings, our reports would undoubtedly stimulate an interest in ophthalmology for the internist and would result in increased mutual benefit.

Every condition where the cornea and iris is involved is not necessarily a limited affection of these tissues. I refer to acute congestive glaucoma. In this disease, the general practitioner is often the first to be called, as the onset is usually so sudden and the pain so severe that it cannot be localized by the patient, who sends for the family doctor. May I again call your attention to the fact that whenever you see a case of acute severe headache accompanied by nausea and vomiting, that you carefully examine the eyes to exclude glaucoma. Timely treatment in the reduction of tension means everything in restoration of vision as well as permanent relief of the symptoms.

Before dismissing affections of the uveal tract, let me discuss one of the most frequent causes and one which is slighted entirely too much. Every corneal lesion or inflammation of the iris or choroid, where an obvious cause is not evident, should be suspected of being tuberculous. The examination should be made in the patient's home or in a hositpal, with the patient in bed. The examination must be made with great care as it is not without danger to the eye. You internists are accustomed to giving an initial dose of 1 mgr. of Koch's old tuberculin. I have seen 1/1000 mg. produce such a terrific focal reaction in the eye of a sensitized individual as to almost result in the loss of the eye. We begin with maximum doses of 1/1000 mg. and gradually increase to 1 mg., and we do not consider the case to be tuberculous unless we obtain a positive local, general and focal reaction. In the treatment we request the physician to administer the largest dose possible without producing a reaction. Our results in ocular tuberculosis have been most gratifying.

The causes of retinal hemorrhages are many and varied. They vary greatly in number and size, in their position in the retina regarding proximity or remote position to the disc as well as the layers of the retina involved.

When effusion of blood takes place in the nerve fiber layer the hemorrhages show up the texture of this layer and are often spoken of as flame-shaped. When the hemorrhages lie in the deeper layers of the retina, they tend to be roughly circular in form. The time taken for absorption of hemorrhages depends of their size and location.

General arterio-sclerosis is nearly always evidenced by changes in the retinal vessels, and consequently is often first discovered by the ophthalmologist. The retinal vessels can be studied in life in a manner not possible with any other vessel in the body, being magnified about 15 diameters with the direct method: The first change is an increased brightness in the retinal reflex, often termed the "copper wire" appearance. Compression of the veins where crossed by an artery is next observed. The lumen of the artery ceases to be of uniform calibre and shows narrowings in its course. The arteries become tortuous. Retinal hemorrhages occur, and white exudates usually taking the form of white dots or spots, are found. The individual dots are rarely larger than the diameter of one of the main veins but occasionally one finds large plaques. These findings are usually bilateral but may be seen in only one eye. Where the exudates are present, especially in large and increasing numbers the prognosis is poor. In renal retinitis there is a more distinctive ophthalmoscopic appearance, it is always bilateral, and the patient generally dies within a few years.

The condition of the retinal arteries may be said to serve as a guide to the condition of the cerebral arteries and although this is true in the majority of cases, there are exceptions.

In pernicious anemia the hemorrhages are mostly flame shaped, the tendency to their formation beginning when the corpuscles have dropped to one-third. There are few patients with myelogenous leukemia who do not show retinal changes at some stage, first manifested by enlargement of the veins, sometimes the arteries; later hemorrhages either deep or superficial, followed by a general leucocytic infiltration of the retina and choroid.

In thrombosis of the cavernous sinus a varying degree of proptosis is constantly present due to venous edema and obstruction of the orbital cellular tissues. The proptosis starts on one side but later extends to the other side from extension by means of the circular sinus. This differentiates it from orbital cellutitis. Chemosis and edema of the lids is common and a peculiar bluish color of the lids due to engorgement of the veins is quite suggestive.

Hysterical blindness can generally be determined by the fields which are usually tubular or spiral shaped. It must be borne in mind that a hysterical condition is often superimposed on some organic disease. I have in mind a case where a young man 21 years of age became blind in the left eye within two days. Three days later he lost his sight in the right eye. The fundus findings were questionable. He was treated by hypnotic suggestion. Within a few days his vision had increased to 15/200 in the right eye and light perception in the left. In the meantime, however, his optic disc had shown a definite blurring and swelling of the upper nasal quadrant with tortuosity and engorgement of the veins. He is now in the hospital, his case probably being one of brain tumor.

In disseminate sclerosis the loss of sight precedes the atrophic changes in the disc. The atrophy never becomes complete. Alternate loss of sight and recovery may occur several times before changes in the disc can be seen. Defects in the fields are usually central and may be for colors or complete. When peripheral, they are generally irregular.

There are many conditions such as changes in brain tumor; ocular changes in dysentery, blindness from severe hemorrhage, amaurotic family iodicy, Mikulicz's disease, hemorrhage in the new born, tobacco and alcohol amblyopia and changes in the eyes from parasites and various chemicals and drugs which I have not covered, owing to the tremendous scope of the subject.

If I have succeeded in stimulating or awakening an added interest in the relationship between the ophthalmologist and the internist, I shall conside this feeble effort of mine to have been of some worth.

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THE TREATMENT OF GONORRHEA IN SOME EUROPEAN CLINICS*

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The subject of gonorrhea is an old one, and the saying that there is "nothing new under the sun" may be aptly said about the treatment of gonorrhea. Even though the market is flooded with a hundred and one drugs each proclaiming their efficiency in the treatment of gonococcal urethritis, still much remains to be desired in the cure of this widespread disease. In spite of the above remarks, I wish to report some observations made while working in various venereal clinics in Europe, especially in Vienna and Frankfurt a/M. End results obtained in these clinics, and the fact that venereal diseases in general are on the decline in Europe have stimulated me to make this report. In passing it may be mentioned that most of the venereal work in these centers is done by dermatologists in contrast to our American cities where the work is mainly done by urologists. It appears that Europe takes its venereal diseases much more seriously than we do, because in talking with various workers in the field, they all were impressed by the decrease in the number of cases being seen. In Frankfurt a/M at the Universitats Clinic, Professor Herxheimer told me that syphilis there was becoming a relatively infrequent disease. As to why this was taking place he had no definite reason. Although a decrease has also been noted in the incidence of gonorrhea, still they are noting many cases with severe complications, especially gonorrheal endocarditis.

Two drugs which are used a good deal in this country, namely, argyrol and mercurochrome are seldom if ever used abroad, because these drugs are too expensive. However, most of the clinics there have a large armamentarium of drugs which they use in the treatment of gonorrhea.

In America most of the workers use instillations and irrigations of various sorts modifying their treatment depending upon the absence or presence of complications. In the main the same may be said of workers abroad, however, Picker in Budapest does not use any local medication whatsoever, Glingar in Vienna believes in treat-

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ing his cases mainly through the urethroscope, and some French workers believe in the intravenous use of trypaflavine only. This all comes back to the viewpoint that when a disease entity has many and varied forms of treatment, one can rest assured that one is just about as effective as the other. So that when one worker says he gets good results with his form of treatment, still if one of us were to use it we probably would not note the miraculous results that he does. However, gonorrhea is one of the oldest diseases that man has known, and as yet no real cure has been produced. An old saying by Ricord is just as true today as it was years ago, namely, "we all know when a gonorrhea begins, but only the Lord knows when it ends."

I shall report in detail the treatment of gonorrhea in the male as practiced in the Oppenheim Clinic at the Willhelmina Spital in Vienna, because I had the opportunity of becoming thoroughly familiar with their treatment and also to observe the results obtained. Every worker in this clinic is first impressed with the fact that the cases must be handled with the utmost gentleness. This factor is not appreciated by a great many of the men working in venereal diseases.

On reporting to the clinic the patient is first examined in the regular way and a smear is made of the discharge, Gram stain being used. Another stain used a good deal is the Unna-Pappenheim solution (Methylgreen-pyranin). With this solution the gonococci are stained an intense pink and the protoplasm of the cell a bluish green. With this solution one uses the same technique as with methylene blue. It, therefore, offers a quick differential stain and in this is advantageous over the Gram stain.

The genitalia are examined very carefully for the presence of any complications. If there is any edema of the prepuce, balanitis, severe pain on urinating, marked inguinal lymphadenitis, swelling of the dorsal lymphatics or hematuria then local treatment is not instituted for at least 7-10 days. This point is very important to remember, because most of us are too prone to start local treatment as soon as a diagnosis of gonorrhea is made. Your cases of gonorrhea will clear up much more quickly if you will look carefully for these early complications, and avoid local treatment if they are present. If none of the above complications are present then treatment is started along three lines, namely, internal medication, office treatment and home treatment. In all cases of gonorrhea the patient is advised to avoid spicy foodstuffs, sexual excitement, and alcohol and beer. The last being very important in Europe. Internal medication consists of (1) Sodium salicylate gr. 15, two to four times daily after meals. (2) a tea preparation of Folia uva ursi and Herb herniari; three cups of tea are taken daily containing one drachm of the above mixture to the cup of water, (3) Sandalwood oil 0.5 gram in capsule form is taken t. i. d. This internal medication is given as long as the urine remains cloudy. In addition Belladonna suppositories are given in order to avoid an epididymitis. These are used once a day during the course of the treatment. These suppositories are given to prevent anti-peristalsis of the vas deferens, because most workers there believe that an acute epididymitis results from anti-peristalsis of the vas aspirating infected material from the seminal vesicles. However, this point is a much mooted one, because some workers do not believe that anti-peristalsis of the vas occurs, but that the mechanism of an acute epididymitis is merely one of infected material being pushed from the infected seminal vesicles into the tail of the epididymis.

In cases which come to the clinic about 24 hours after the infection, i. e., when the discharge is mucoid, when the gonococcus is extracellular and no edema of the prepuce is present then treatment with 5% Reargon is started. This is used as an injection into the anterior urethra every two hours, also at night if possible. Sometimes an abortive cure has been obtained with this drug.

Aside from these early cases in which abortive treatment is tried, the patient is given the internal medication above described and irrigations are started with potassium permanganate (1:5000), using one liter of cold solution, with the container of the solution being only ½ meter above the level of the penis. Cold solutions are used because they produce a contraction of the cut-off muscle, and in this way do not allow the solution to enter the posterior urethra. These irrigations are given once a day, and with the utmost gentleness.

In addition local injections are started with ¼% protargol, having the patient inject 8 cc. of the solution three times daily and holding it

for 3-5 minutes. The percentage of protargol is increased as the urine clears up and the discharge lessens. The solution should not produce any irritation, when it does so its strength is decreased. The irrigations of potassium permanganate are continued until the urine becomes clear, and then irrigations of protargol (¼-2%) are started using only ½ liter of solution and adding 1 teaspoonful of powdered charcoal to the solution. The charcoal is supposed to absorb the toxins in the urethra. When the discharge becomes mucoid, then local injections of Albargin are used instead of protargol. One starts with ¼% per 1000 cc. solution and works up to a 2% per 1000 cc. solution. After this all local treatment is stopped and a smear is made following urethral milking. If this is negative for gonococci then instillations of silver nitrate are started. For the instillations a Guyon catheter is used instilling 1-2 cc. of a ¼% solution into the anterior urethra. This is done for 2 successive days and then the strength is increased until 2%. This solution is held for 3-5 minutes in the anterior urethra. These instillations are given only if repeated smears are negative for gonococci and the urine is clear. If smears are not negative for gonococci, then use instillations of 5-10% protargol solution or if the patient cannot tolerate silver nitrate use 5-10% protargol. After every Guyon instillation make a microscopic examination of the discharge.

After the use of 2% silver nitrate, and the smears are negative for gonococci then irritation tests are started for the final treatment of the anterior urethritis. In all, seven irritation tests are performed. These are done so as to stir up any hidden focus in the urethra.

1. *The first test* is the instillation into the anterior urethra of 2 cc. of 2% silver nitrate solution. The next day the urethra is milked and the discharge examined—if the smear is negative for gonococci then the

2. *second test is performed,* namely the instillation of 2 cc. of a 5% copper sulphate solution, and the discharge examined the next day, if negative then the

3. *third test* is done instilling 2 cc. of (1:10,000) mercury bichloride solution. The discharge is examined the next day and if negative then the

4. *fourth test* is done. This consists of sounding the anterior urethra with a Dittl sound. This is a small straight sound used for the anterior urethra only. After this one waits two days, and then examines the discharge, if negative then the

5. *fifth test,* namely the instillation of 1 cc. of Lugol's solution is done. One waits one day and then

6. instills 1 cc. of 3% hydrogen peroxide solution and for the final test, 7. an intracutaneous injection with aolan is made. Three intracutaneous wheals are made on the forearm, and then the urethral discharge is examined the next day.

If all smears are negative the patient is discharged as cured. It has been noted that frequently patients will be negative up to the last test, and then the aolan (i. e., foreign protein) will stir up residual foci.

In cases of anterior urethritis which remain positive for a long time, then a method used is the so-called "pressure irrigation." Most of these cases which remain persistently positive are due to involvement of Littre's glands. An irrigating syringe (100 cc.) is used in conjunction with a Nelaton catheter, which has its tip cut off. The catheter is placed into the anterior urethra, and the patient told to use his cut-off muscle as if trying to stop urinating. Then with a series of short forceful injections one irrigates the urethra with a ½% cold protargol solution using ½ liter of solution. During the pressure the lips of the meatus are kept tight over the catheter so that with each injection the urethra balloons out. After each injection the fluid is allowed to run out, and the procedure is then repeated. This method frequently clears up a long standing positive case.

In cases of total urethritis i. e., anterior and posterior, the patient is given the same internal medication as in an anterior urethritis, and the patient uses the same local injections as above mentioned. In the clinic, however, irrigations are used of warm solutions of the above drugs named i. e., potassium permanganate and protargol. The irrigating solution is held one meter above the level of the penis and first the anterior urethra is washed out, and then the fluid is allowed to run into the bladder. This irrigation is stopped as soon as the patient has the desire to urinate. After the irrigation the patient retains the solution for 5-10 minutes and then urinates. The patient should always

urinate before any type of treatment. These Janet irrigations are sometimes difficult because of spasm of either the external or internal sphincter or both; in order to relieve this spasm one should engage the patient in conversation or at times novocain may have to be placed into the urethra in order to relieve this spasm.

Irrigations for both anterior and posterior infections are carried out with the Majocchi-Oppenheim tube which has some advantages over the Janet tip.

The same plan of treatment is then followed as in cases of anterior urethritis except when the final irritation tests are used they do not use mercury bichloride, Lugol's or hydrogen peroxide in the posterior urethra.

In cases in which the urine remains cloudy despite all treatment the following plan is used. Five cc. of a 40% solution of urotropin is injected intravenously every other day, then one hour later the entire urethra is irrigated with (1:5000) potassium permanganate. This is done b. i. d. for 4 days. Then (1:3000) potassium permanganate b. i. d. for two days, then (1:2000) for one day and then finally (1:1000) for one day. In these cases the urine usually becomes clear, but this treatment is not curative.

In this clinic cases of chronic urethritis are treated as follows: If the process is in the anterior urethra the urethra is massaged over a Dittl sound and then irrigated with ½% protargol solution. In addition the Kollmann dilator is used and also the method of pressure irrigation. Intramuscular injections of aolan are used in conjunction with the above measures. Chronic prostatitis and vesiculitis are treated by massage followed by instillations of silver nitrate into the posterior urethra. Also Diday rinsements are used routinely in these cases. This consists of passing a rubber catheter into the anterior urethra and irrigating with 3% boric acid solution. Then the catheter is passed into the posterior urethra and irrigated, then it is passed into the bladder and it is filled with the solution. Then the catheter is drawn gently back into the posterior urethra and it is irrigated again.

Complications such as epididymitis, prostatitis, cystitis and periurethritis are treated in practically the same manner as we do.

I have deemed it advisable to relate the treatment in this clinic in some detail because first, of the uniformly good results obtained, second, because of the care and gentleness which the patients are shown, and third because the venereal clinics in Vienna in general follow this method with the notable exception of one, namely the Blum-Glingar clinic at the Sophien Spital. In the last named clinic urethroscopic measures are used to a large extent in the treatment of gonorrhea. The Blum-Glingar clinic is a haven for those interested in urethroscopy, and here one practically always finds visitors from all over Europe and America doing work under Glingar, who is looked upon as the peer in urethroscopy in Europe.

In general Glingar treats his cases of gonorrhea during the first 3-4 weeks with local instillations and irrigations, and then starts urethroscopy. The anterior urethra is first anesthetized with either 5 cc. of 2% tutocain solution or 10% novocain. The urethroscope is then passed and the urethra examined. Small areas of erythema are touched up with either tincture of iodine or ½% silver nitrate solution. Infected Littre's glands are cauterized with the electric cautery under direct vision through the urethroscope. This treatment is carried out once a week until the urethra assumes a normal appearance. He does not treat cases of posterior urethritis through the urethroscope but employs irrigations of various kinds. Personally I was impressed by the results he obtained especially in cases of chronic urethritis. The urethroscope which he uses is entirely different from our American instruments, and one which can be handled very easily after a little practice.

In some French clinics, cases of gonococcal urethritis are treated by the use of trypaflavine intravenously, injecting 10 cc. of a 1% solution every other day. No local treatment is used. This treatment is effective during the spring and summer time when some chemical change occurs in the body as a result of the sun's rays. Very frequently during the treatment the patient's face undergoes color changes, which are, however, temporary.

In conclusion I wish to state that more careful attention paid to early complications in cases of gonorrhea, and subsidence of local treatment if same are present, plus gentleness in the handling of the urethra will result in better end-results in the treatment of gonorrhea.

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LUNG ABSCESS*

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There is no more interesting subject today, either in the field of medicine or of surgery, than lung abscess. Not only is this disease interesting because of its own inherent features but particularly because of its connection with chest surgery. This relationship is of especial importance, for, whatever progress has taken place in the treatment of pulmonary suppuration is dependent almost entirely on the progress made in chest surgery.

Other branches of surgery have, indeed, made remarkable strides within the last two decades. But not until recent years did surgery of the chest make any progress whatever. The reasons for this dormancy have now become obvious. Essentially they were, in the first place, a poor understanding of the physiology of the thorax, and in the second place, a fear of creating an open pneumothorax. But, thanks to the splendid work of Graham[1], these fears have now been almost completely dissipated. And so it has come to pass that thoracic surgeons have now acquired a boldness and confidence not unlike that of abdominal surgeons.

Indeed, few new procedures have been added or devised in the treatment of chest disease. But, because of the greatly improved knowledge of the physiology of the thorax, old methods have been taken up again, studied from the new point of view, properly evaluated and more carefully standardized. As a result of these newer conceptions, pathologic entities, formerly regarded as hopeless, have now assumed a brighter hue and a more hopeful prognosis.

Let us consider bronchiectasis, for example. For over twenty years, this disease was looked upon as absolutely hopeless. Now, by the cautery lobectomy of Graham and the graded thoracoplasty of Hedblom, patients afflicted with this disease have been given a new lease on life.

Pulmonary tuberculosis has also been freed from some of its terrors. By means of pneumothorax, phrenicotomy and thoracoplasty, this dread disease has taken on to itself a new ray of hope. The closed method of drainage in empyema has greatly decreased the mortality as well as the morbidity that was formerly associated with this disease[2]. But the brightest chapter in chest surgery is to be found in a consideration of pulmonary suppuration.

Etiology. That there are numerous debilitating conditions which predispose to lung infections is well recognized by the profession; that such conditions may result in a diminished pharyngeal and cough reflex, impaired motility of the cilia and, what is of greater importance, a lowering of the natural immunity of the lung, is also well recognized. The exciting factor assumes an emphatic role only in the presence of some such predisposing conditions.

Among the exciting causes the more prominent ones are:

1. Operations about the nose and throat.
2. Aspiration of foreign bodies, especially in children.
3. Bronchopneumonia, rarely lobar pneumonia (Lockwood).
4. Embolic infarcts, particularly following abdominal operations.
5. Extension of adjacent suppurative conditions.
6. Injuries to the chest.
7. Rarely in carcinoma, syphilis or actinomycosis of the lung.

Ever since 1912, when Richardson first called attention to lung abscess as a complication following tonsilectomy under general anesthesia, numerous reports have appeared bearing on this complication with increasing emphasis. Moore states that one in every twenty-five hundred tonsillectomies develops lung abscess. At the Mayo Clinic it was found that in 208 cases of lung abscess following tonsilectomy, 201 of them ensued after general anesthesia. There is still some question as to whether this complication is due to aspiration or embolic phenomena. However, at the present time, it seems to be the consensus of opinion that aspiration plays the important role. It might be of interest here to mention the experimental work of Cutler and Hunt on aspiration. Working on dogs, they found that aspiration varies in direct proportion to the position of the body. When the foot of the table was raised about 28 cm. above the head, aspiration never occurred. With raising of the head the number of aspiration cases increased; especially was this marked when the anesthetic was taken badly and when there was

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vomiting. Smith[3], by experimenting on animals, concludes that aspiration of infected material from the teeth and tonsils causes the greater number of lung abscesses. The fact that the right lung is most often involved is in favor of this theory.

Foreign bodies should not be overlooked in the pathogenesis of this complication. Especially in children, and not infrequently an unexpected finding in adults. When the foreign body lodges behind the heart the most careful roentgenologic examination will often fail to reveal it. In suspicious cases, therefore, a competent bronchoscopist will be of the greatest help in clearing up the diagnosis.

Embolic infarcts play their part particularly in abdominal operations. Cutler and Hunt state that two per cent. of all operations, four per cent. of all abdominal operations and eight per cent. of epigastric operations are followed by pulmonary complications. It is rather difficult to speak on this phase of the subject with positive assurance. What the mechanism is that causes or produces pulmonary infarctions in abdominal operations has not as yet been definitely explained. It would seem that restricted excursions of the diaphragm has a good deal to do with this complication. Less doubt prevails in cases of pyemia or septicemia.

Confusion will occasionally arise in cases of carcinoma of the lung. Here it should be remembered that in about ten per cent. of the cases suppuration will occur, with the result that serious mistakes will be made both as to diagnosis as well as prognosis.

Pathology. The character of any abscess depends on several factors, one of which is the site of the abscess. There is a vast difference, for example, betwen a staphylococcic abscess of the soft tissue of thigh and a similar infection of the femur. Likewise, a lung abscess has its distinctive features. Whereas an abscess of thigh will readily collapse when opened and drained, it will not readily collapse in the lungs with like treatment. The reasons for this are, a rigid chest wall, negative intra-thoracic pressure and often, pleural adhesions. Hence, the tendency to chronicity in lung abscess. Another circumstance that tends to chronicity is the fact that almost every lung abscess is associated, to some degree, with bronchiectasis[4]. The opposite is just as true. Clinically, it is therefore almost impossible to draw a sharp distinction between the two conditions.

As to the difference between an acute and a chronic abscess, the distinction is merely arbitrary. Lockwood considers an abscess of more than two months' duration as chronic. Almost all abscesses are therefore chronic by the time a positive diagnosis is made. Lung abscesses may be large or small, single or multiple. According to Lilienthal, a single abscess is usually due to aspiration, while multiple abscesses are due to blood stream infections. The majority of lung abscesses are peripheral and the right lung is involved three times as often as the left lung. An abscess due to a foreign body is most often in the right lower lobe while an abscess following tonsillectomy is usually in the right upper lobe. Jackson[5] calls attention to the interesting observation that, irrespective of the duration of an abscess due to a foreign body, it will readily clear up by the bronchoscopic removal of the foreign body; that these abscesses are, as a rule, marked by a mild, slow and restricted process in contrast to abscesses of other origin.

As to the bacteriology of lung abscess, it may be said that all the germs that are normally found in the mouth and pharynx are also to be found causing the abscess. For purposes of proper therapeutics, it is of importance to know whether an abscess is due to spirochetes, fusiform bacilli or actinomycosis. In these cases the treatment becomes almost specific. But for purposes of proper surgical treatment, it is best, according to Graham[6] to divide all pulmonary suppurative conditions into three types—the peripheral abscess, the hilum abscess and multiple abscesses.

Symptomatology. In general it may be said that this disease is one of symptoms rather than one of physical findings. Therefore it becomes of the utmost importance to elicit the most careful history, particularly with reference to operations about the nose and throat, to operations in the upper abdominal cavity and with reference to a history of pneumonia.

In the pneumonias one finds an absence of a clear crisis; or, if there was a crisis, that shortly afterwards the cough became exaggerated, the temperature assumed a septic type and that gradually the patient's condition grew worse.

Following tonsillectomy, many days elapse be-

fore onset of symptoms and then they may develop very gradually indeed. Harrington[4], however, remarks that the onset may be sudden with chills and fever and that the disease runs a rapid, severe course with marked prostration; and cases of this type are reported where putrid pus appeared in ten to fifteen days following the removal of the tonsils.

After abdominal operations the onset is usually abrupt, with pain in the chest, rapid respirations, fever, cough—the so-called post-operative pneumonia.

In the majority of these supurative conditions there is a characteristic paroxysmal cough, a foul, putrid expectoration and a fetid breath. The breath may be offensive even when the abscess is closed and there is no raising of foul sputum. Dyspnea, cyanosis, pain in the chest, are usually present to some extent. Hemorrhage, either in the form of blood-streaked sputum or severe hemoptysis is present in at least fifty per cent. of the cases. Clubbed fingers or watch-crystal nails are to be found sooner or later in most of these patients.

Constitutional symptoms characteristic of sepsis are present in nearly all the cases. Septic temperature, tachycardia, leucocytosis, anorexia, loss of weight, weakness, pallor, all fit into this picture of infection.

Physical examination reveals few typically characteristic phenomena. The observant clinician will be able to elicit signs of cavity in about one-third of the cases; dullness and diminished transmission of breath and voice sounds in most of them. Roentgen-ray examination is of far greater value especially if taken in various positions.

Diagnosis. The diagnosis of lung abscess, while beset with many difficulties, can be arrived at if careful attention is paid to the history; if thorough roentgen-ray work is done, aided, if necessary, by lipoidol injections; if the chest is carefully examined; and if the character of the sputum is taken into consideration. The aspirating needle is mentioned only to be condemned. It should be used only when the surgeon is ready to proceed with his operation. Otherwise there is always the danger of producing an empyema, pyopneumothorax or a phlegmonous infection of the chest wall.

Treatment. In no other disease is more careful discrimination necessary than in the management of pulmonary abscess. Every one of these patients should, therefore, be carefully studied and supervised by a team of workers, consisting of an internist, a surgeon, a roentgenologist and a bronchoscopist. For each of these patients will present his own specific problem. It is, therefore, a serious mistake to attempt standardization in treatment.

Medical. The acute cases should, as a rule, be in the hands of the internist. When the infection is due to the spirocheta of Castellani or to the fusiform bacillus, Pilot reports excellent results from the intravenous administration of salvarsan. Where the lesion is due to aspiration of a foreign body, the bronchoscope is of inestimable value. This instrument will also give excellent service in aspirating pus from the cavity, in irrigation and in dilating narrow channels leading from pus cavities. Many of these abscesses will rupture into a bronchus and will be completely obliterated without surgical intervention. To enhance drainage in these particular cases, the posture of the patient is of great importance. This varies with different patients and sooner or later each patient discovers what posture is best suitable for his own case. At times old operating tables may be used for postural drainage—about two or three times a day and not too close to meal time. In addition to these measures, much can also be gained from rest, high caloric diet, fresh air, and heliotherapy. With this régime about half the cases will eventually make a complete recovery.

Surgical treatment. Surgical procedures are instituted only after medical treatment has been given a thorough trial. Surgery should not be resorted to during the "formative stage of the abscess."[6] It would seem that those of the widest experience show more and more conservatism as time goes on. However, in the end, there will always remain a certain number of cases for which no other treatment but surgery will be applicable.

The peripheral abscess has the clearest indications for treatment—drainage, wide and continuous, until the cavity has been obliterated. Where adhesions already exist, it is but necessary to resect a portion of one or more ribs under local anesthesia, locate pus with the aspirating needle, cut down alongside the needle and insert a drain. The cautery is perhaps the ideal instrument in these cases. Where there are no ad-

hesions present, it becomes necessary to produce them. A two-stage operation then becomes preferable. The first stage consists of the resection of the ribs and packing gauze entirely around the wound between the visceral and parietal pleura; and leaving this gauze in place for about five days at which time adhesions will have formed. The abscess may now be drained with safety.

The hilum abscess is of more serious import and presents greater difficulties in its management. The underlying principle in the treatment of this type of case is the collapse of the abscess cavity.

In the simplest way this may be brought about by pneumothorax—injections into the pleural cavity of about 400-500 cc. of air every four to five days until the cavity is obliterated. Where dense adhesions prevail, pneumothorax is bound to fail. Matson, speaking before the Chicago Medical Society, demonstrated the Unverricht thoracoscope for severing such adhesions and by the use of which he reported excellent results.

Phrenicotomy. The removal of a large enough section of the phrenic nerve is particularly of value in abscesses of the lower lobes. This procedure causes a paralysis of the diaphragm, which, rising into the pleural cavity, produces pressure on the abscess cavity and thus helps in its obliteration.

There will always remain some cases which will not respond to pneumothorax or section of the phrenic nerve. Thoracoplasty should then be tried. This operation, usually preceded by phrenicotomy, consists in the removal of all the ribs on the affected side by graded procedures. Usually three or more operations are necessary. They are to be performed under local anesthesia, and, now and then, aided by light gas anesthesia. No thoracoplastic operation should last much more than one-half hour and should not be repeated in less than five to seven days. The purpose is to collapse the chest wall downward and inward. This is the most radical procedure in the management of the hilum abscess and, hence, should be used only as a measure of last resort.

In the treatment of multiple abscesses the greatest of difficulties are presented and the treatment becomes of the most heroic kind. Lilienthal[7] has resorted to lobectomy in these cases with excellent results. In the hands of others, however, the results have not been so favorable, due to a complicating suppurative mediastinitis. Graham[8] is not very enthusiastic about lobectomy as recommended by Lilienthal. Instead he does a lobectomy by reaming out the diseased lung tissue by means of an actual cautery. In this manner he avoids to a very great extent the danger of the suppurative mediastinitis. Graham does his cauterization in several stages and in a series of thirty-four cases, seven died and twenty-seven were either cured or greatly benefited. Considering the serious condition of these patients, such results are more than promising.

In the vast field of surgery there may be some branch wherein excellence has been reached. If so, it was only after decades of bitter experiences. No one has as yet referred to chest surgery in terms of exaltation. Justly, one may say that this new branch is but on the threshold to a new era, leading toward a brighter and more hopeful outlook.

CONCLUSIONS

1. The delay in the progress of chest surgery was due principally to a lack of understanding of the physiology of the thorax.

2. Tonsillectomy under general anesthesia plays an important role in the causation of lung abscess, aspiration being the immediate cause.

3. The simplest and at the same time, most comprehensive classification of lung abscesses is the peripheral abscess, the hilum abscess and multiple abscesses.

4. Lung abscess is a disease featured rather by symptoms than by physical findings. A patient, presenting a paroxysmal cough, foul sputum, fetid breath, cyanosis, clubbed fingers and symptoms of sepsis, does not offer a serious problem for diagnosis.

5. The peripheral abscess is usually treated by external drainage, consummated through a one or two stage operation.

The hilum abscess is treated best by pneumothorax, phrenicotomy or thoracoplasty. Multiple abscesses present the gloomiest outlook. Lobectomy or cautery pneumectomy, performed by the specially skilled chest surgeon, offers promising results.

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CLINICAL ASPECTS OF OVARIAN TRANSPLANTATION WITH REPORT OF FORTY-FOUR CASES*

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Study of the literature of recent years shows quite clearly that the transplantation of ovarian tissue has passed the experimental stage and become an established surgical procedure, with well defined indications. A great deal of laboratory work has been done by Alexander Lipschütz[1], who states that "There can be no doubt actually that ovarian transplantation and homeotransplantation succeed exceedingly well in laboratory animals."

Martin[2], who made an exhaustive survey of the literature regarding ovarian grafting and transposition five years ago, reached the general conclusion then that while autotransplants gave some evidence of success, in deferring the symptoms of the menopause and delaying the cessation of menstruation, homeo- and heterotransplants gave practically no such evidence. I think that the results reported since that time justify a modification of that opinion, as it has been abundantly proved that homeotransplantations can give results that equal those of autotransplants. Lipschütz[3] says, "What can be said with certainty is that under certain technical conditions even homeotransplantation gives in *most* cases a positive result." Moreover, I think that in time methods will be devised whereby heterogenous ovarian grafts will be found both practical and effective.

The general indication for ovarian transplantation is avoidance of the neuropathic and constitutional symptoms brought about by a pathological or artificial menopause. Hence, transplantation is indicated after a bilateral castration or double salpingo-oöphorectomy in a woman within the sexual life cycle. In cases of dysovarism, or ovarian insufficiency, implantation of foreign ovarian tissue is indicated to supplement the deficiency without the removal of the existing ovaries; this class would also include cases of sterility. I think there is also a third general indication; i. e., to avoid or modify the neuropathic phenomena and mental imbalance which often occur at the time of the natural menopause in certain types of women who have a neurotic or hysterical temperament. I have personally obtained a large measure of successful results in a number of such cases. Within the period of the last eight years I have transplanted ovarian tissue in forty-four cases, for various indications. Before referring to my results in these cases, however, a short resumé of what the literature shows regarding the present aspects of ovarian grafting will not be out of place. This will include both experiments on animals and the clinical work on the human subject.

Auto- and Homeotransplantations of Ovaries in Animals:

Knauer[4], in 1895, appears to have been the first to successfully transpose the free ovaries from one site to another in the same animal. He demonstrated microscopically that the transposed ovarian tissue was functioning some months after operation, and that there was no uterine atrophy. In 1900 he reported[5] further results of autografts in animals, showing that these ovaries continued to function for some years, and that gestations occurred when the implantation was made in the uterine cornua.

Grigorieff[6], in 1897, in four animal experiments in which the free ovary was re-implanted in the uterine cornua reported four subsequent pregnancies. Ribbert[7] demonstrated that ovarian heterotransplantations were less successful than auto- or homeotransplantations, and Foàs[8] experiments showed that homeotransplants of the ovaries of young animals were more successful than transplants of older adult ovaries.

McCone[9], in the United States, reported successful auto-, homeo- and heterografts of ovaries

*Read before the North Shore branch of the Chicago Medical Society, March 6, 1928, and by invitation, the Eastern Medical Society, New York, May 11, 1928.

in rabbits. He considered that the grafting of animal ovaries could be used in the human species to prevent uterine atrophy, postcastration nervous symptoms and similar phenomena.

Fish[10], in 1899, also stated that he had made several successful ovarian homeotransplantations in rabbits.

In 1911, Uffreduzzi[11] reported the implantation of free ovaries in the uterine cavity of rabbits and guinea pigs, and stated that such transplants preserved their viability. He was skeptical concerning ovulation.

Estes[12] reported two pregnancies in bitches following implantation of free ovary in the uterine cornua.

Benesch and Kohler[13] placed the free ovary, either whole or in part, in the uterine cavity, fastening it to the uterine wall by a few sutures, but these grafts did not take.

These authors also carried out in dogs a number of implantations of the ovary in the uterine cavity, preserving the vascular ovarian pedicle. In the cases in which the implanted ovary survived it was histologically proved to have preserved its function, but pregnancy failed because the ovary was separated from the uterus by a thick layer of epithelial and connective tissue.

In regard to homeoplastic transplants, Knauer found the results less regular than in the case of autografts, which, of course, stands to reason.

In the experiments of Castle and Philipps[14] in 1913, made on 141 guinea pigs, they found that only a few pregnancies followed.

Experimental work by Kross[15] in rats showed that homeografts of ovarian tissue in castrated animals resulted in a far greater degree of preservation than did similar grafts in noncastrated animals due, Kross thinks, to functional demands. The younger and more immature the graft, the greater is the growth potentiality.

Pettinari's[16] recent reports of experiments in 332 animals showed that ovarian tissue transplanted into animals of the same species can be made to live, elaborate the normal internal secretion, and assume the germinal function. The formation of *corpora lutea* was observed especially in autotransplants; follicle atresia was the rule in heterografts.

From these and several other reports in the literature it appears clear that full term pregnancy is possible after an ovarian homeotransplantation.

Klob[17] implanted very young ovaries in a senile goat, with resulting "rejuvenation" aspects and pregnancy. A profound somatic and psychic transformation was observed. This is in line with the regeneration of old ovaries after implantation of young ovaries in rats, as reported by Steinach[18].

Pettinari[19] also mentions the experimental transplantation of young ovaries on the old ovaries of a sixteen year old bitch, with reestablishment of the functions of the animal's own ovaries and remarkable general improvement.

Lipschütz also found in animal experiments that homeoplastic intramural ovarian transplantation gave, in almost every case, a positive result. In heterotransplantations, on the other hand, failure was the rule. This he believes may be due to the difference in biologic relationship, and referring to my work on heterotransplantation of the testicle he states that there may be clinical possibilities in that direction.

Autotransplantation of the Free Ovary in the Human Subject:

Morris[20] was the first, in 1895, after radical removal of the ovaries and tubes in a woman aged twenty-six, to graft a piece of ovary to the interior of the stump of one tube. The woman became pregnant a month later but aborted at the third month.

In Franck's[21] case, after removal of both tubes and one ovary from a woman of twenty years, a fragment of ovary was sutured to the uterine part of one tube which had been preserved. Regular menstruation followed after a few months. In two other similar cases pregnancy and normal labor followed in one and abortion in the other.

Bainbridge[22], in 1905, reported a case in which after removal of both tubes and ovaries from a woman aged thirty-nine, a piece of ovary was grafted to the stump of a tube in the uterine cornua. This was followed in a few months by menstruation, then by pregnancy and labor at full term, with a living child. The woman continued to menstruate to the age of fifty-one.

Estes[23] has reported such free ovarian grafts in which a fragment of removed ovary was reimplanted after bilateral salpingectomy in the stump of the tube, and sutured to the cornua of the uterus. All patients so treated escaped

the neuropathic manifestations usually observed in young women who have lost both ovaries, two of the patients became pregnant, one going to full term.

In Nattrass's[24] case the autografting of both ovaries into the abdominal wall has been followed by regular menstruation for thirteen years, with no symptoms except slight swelling at the site of the graft at the time of menstruation.

Mayer[25] reported five cases in which the graft was implanted and fixed by sutures in the uterine wall. In one case the graft was expelled, and none of the women became pregnant.

Mansfield[26] did autoplastic free ovarian grafts in fifty cases, of which forty were reviewed. The uterus as well as the ovaries were removed in eighteen cases. In every case where the uterus was left there was without exception a good result which continued from one to three years. About half the cases in which the uterus had been removed were symptom-free up to four years following the transplantation. The transplantation site was between the rectus muscle and fascia.

Heinmann[27] also reported good results in four cases of autoplastic free grafts.

Intra-uterine Transposition of the Ovary With Its Vascular Pedicle in the Human Subject:

A large number of operations have been reported in the literature in which after radical removal of both tubes, one or both ovaries being left behind, an ovary was re-implanted in the uterine wall or cornua, its vascular and nervous pedicle being preserved. Palmer Dudley[28], in 1899, was the first to transplant the pediculated ovary into the uterine cavity. Tuffier[29] had forty-nine, and Estes[23] 100 such cases, principally in young women. Other cases have been reported by Petit[30], Robineau[31], Storer[32], and several others. In forty-one of Tuffier's cases which were traced menstruation was resumed in all except two, and in twenty-one cases it was regular. In some instances pregnancy and normal labor followed. Only twenty-seven of Estes' patients were followed, and among these there were four pregnancies and two living children at term.

Ovarian Homotransplantations in the Human Subject:

Martin[33], in 1903, transplanted ovarian tissue in the remains of the broad ligament of a young woman after ablation of the tubes and ovaries. Menstruation followed regularly.

Morris[34], on 1906, reported a case of ovarian homeograft in the broad ligament following bilateral castration. Pregnancy ensued, with normal labor and a living child. He did fourteen other similar grafts, and in this group one pregnancy occurred but the patient aborted.

Sippel[35] observed four pregnancies in four cases of hypo-ovary in which a homeograph was executed to supplement the deficiency. In these cases the patients' own ovaries were not removed. The same operation, with similar results, was carried out by Croom[36] and Lee[37]. Engel[38] and Hartlung[39] also have reported satisfactory results from homeografts. Engel's patient has been under observation for ten years and has been entirely free from the symptoms of the menopause. In Hartlung's cases hypo-ovarian symptoms appeared again at periods varying from one to one and three-fourths years following the transplantation.

Ovarian Heterografts in the Human Subject:

Only a few clinical cases of ovarian heterografts are reported in the literature. Ortega[40] transplanted both ovaries of a sheep in the period of full genital activity into the aponeurosis of the left obliquus muscle of a young woman, aged eighteen, with ovarian insufficiency. There was disappearance of symptoms and establishment of normal menstruation, which had continued to the time of the author's report, in 1924.

Hunt[41] reports that he has made many heteroplastic grafts of ovaries in the human female, using the ovaries of sheep as a rule. The histories of some selected cases are given to prove the efficacy of such grafts.

Unterberger[42], Voronoff[43] and Pettinari appear to believe that heterografts from simians to the human have possibilities. The only question seems to be that the transplant shall be carefully located, although the possibility of the fecundation of a foreign ovum by human spermatozoa is extremely doubtful. My own preference is for human material for ovarian transplantation. Chemical, hematologic, biologic and structural differences of heterotransplants appear to me to prohibit their use. The only exception to this statement may be the material obtained from a chimpanzee. In my hands all others utterly failed. In all my cases herein reported only human material was used.

General and Special Effects of Ovarian Transplants:

As careful an observer as Biedl[44] says that the presence of a portion of one ovary in any part of the body is sufficient to maintain the complete anatomical integrity and functional activity of the genital organs of the female.

The effective value of a transplant, however, depends on several factors: upon the stage of development of the transplanted ovary; upon the relationship between donor and recipient; upon whether or not the uterus or ovaries, or both, are present in the recipient, and upon whether or not the graft is free or preserves its vascular connections.

It seems to have been overwhelmingly proved that when the uterus is intact the presence of an ovary, in whole or in part and with or without its blood connections, will bring about the function of menstruation after a few months and preserve it for a varying length of time. Tuffier's and Bour's[45] experience was that this time is from three to five years after operation in the case of free autogenous grafts, but several cases of much longer duration have been reported.

Moreover, apart from genital functioning, a successful transplant of either the auto- or homeo- variety, free or otherwise, has a very favorable effect upon the health of the recipient. It goes without saying that when menstruation is preserved the neuropathic disturbances accompanying a premature menopause in women within the sexual cycle are obviated.

The literature also shows that the implantation of a free or pediculated ovary, in whole or in part, within the uterus or in the stump of a tube still attached to the uterus, is capable of being followed by a normal pregnancy and labor. The implantation of an ovary with its vascular pedicle in the uterus is a logical operation in suitable cases. It is logical because the ovary is nourished; it is useful because the ovary lives and functions; menstruation is not disturbed in its rhythm or duration, the woman escapes the disturbances of the menopause, and pregnancy is possible if this is desired.

Pettinari[16] states that the physiological action exercised by an ovarian transplant is of two kinds, which is the same in both sexes, although it differs in intensity. This consists in a general action on the development and metabolism of the individual, especially in the genital tract and mammary glands, these effects at times being more marked than in the normal.

The influence of the ovary is not limited to the development and functioning of the sexual and mammary apparatus, however, but extends to all the morphology and into the psychism of woman. The ovarian secretion governs the "feminine" attributes of the human female.

The question of the "taking" of an ovarian transplant cannot be considered merely as a simple question of technic, of choice of site, or of operative dexterity. It is a complex biological question. The endocrine action of the ovary (as shown by our physiological knowledge and clinical and experimental findings) is indispensable to the normal functioning of the female organism. When it fails, when it is insufficient, or when it is altered the whole individual suffers. Much of female pathology is directly or indirectly connected with the ovary, and the solution of the technic of ovarian transplantation will also solve a problem which is fundamental in the realm of female diseases. Pettinari further observes that the natural ovarian secretion in the female cannot be replaced by other internal secretions, but can be supplied by transplanted tissue which, when successful, will carry the organism to complete sexual development, and fullfil all physiological needs dependent upon the ovarian secretion.

While the autogenous graft is generally admitted to be the most likely to succeed, homogenous grafting has proved quite effective, as shown by the results of the authors cited. Close blood relationship does not seem to be an absolute necessity for therapeutic purposes, yet, as Hartlung has suggested, it is very desirable that there should be compatibility between the blood of the donor and that of the recipient, and typing should be done just as in the case of blood transfusions.

The success of transplantation in general varies directly as the difference in blood biologic reactions. Hence, as I have shown in my work on the human testes[46] there is a strong reason for the success of transplantation between the higher anthropoids and the human species in the very close blood affinity of the two species. On the same subject Professor Retterer[47], in alluding to Voronoff's heterografting experiments, says that "the success of the testicular graft from the chimpanzee is readily explicable: It is due

to the close zoölogical affinity between the anthropoids and man, their elements, more particularly their humors, possessing properties if not identical yet very similar."

A final effect of ovarian transplantation in the female is that of so-called "rejuvenation." This effect has already been alluded to in the experimental observations on animals, and Sippel claims such a result in an old woman after an ovarian transplantation. As I have already stated elsewhere[48], I protest emphatically against the term "rejuvenation" being applied as popularly accepted. The public receives the impression that men and women become young again, but no organ or set of organs can be restored to their pristine condition by any known method. The preservation of the gonadal functions in both men and women will, however, preserve them from the senile physical and mental degeneration which follows gonadal loss, and will conserve the virile or feminine characteristics which denote gonadal presence and functioning.

That ovarian transplants, especially the autogenous variety, live a long time there can be no doubt. Mauclaire[49] had the opportunity to examine histologically an ovarian autograft which he had placed in the omentum eight years before. The transplant had remained alive for this period, and contained an ovarian follicle and corpus luteum. Nattrass[50] made a microscopic examination of an autograft which had been under his observation for nine and a half years. At the end of this period perfectly formed graafian follicles and *corpora lutea* were demonstrated, with abundant vascular connections.

That there is an interdependence between the ovary and the other endocrines is well known. These facts have been stressed by Evans and Smith in this country, and by Zondek and Aschheiner in Germany. The latter showed that follicular development is greatly influenced by the anterior lobe of the hypophysis. Sexual precocity can be produced in young animals into whose bodies the anterior lobe of the pituitary has been engrafted.

Technic of Ovarian Transplantation:

The chief points on which the successful taking of a transplant depend are proper material, asepsis, and, of course, proper nourishment of the implant. Infection reduces the vitality of the graft, and in addition saturates it, as well as the tissues in its vicinity, with toxins. For this reason also the bed, or site, in which the implant is placed should be as free from blood as possible.

When a homeoplastic operation is to be done it is best, if possible, to simultaneously operate on both the donor and recipient. Zondek and Wolff[51] preserve the removed ovarian tissue, to be used for transplanting, in a refrigerator; then it is sterilized and examined histologically and bacteriologically before use. But tissue preserved for some time in cold storage is likely to undergo autolytic changes. In my work I transplant the tissue immediately upon removal.

The re-implanting of the whole or part of a healthy ovary, preserving its nervous and vascular connections, into the uterine cornua, wall, or elsewhere is the best procedure in regard to security of nourishment for the graft, care being taken that its site is free from infection. With free grafts, either autogenous or homogenous, the site chosen must be in a richly vascular region. Mauclaire[52], and Bainbridge[53] place the graft behind the rectus muscle lying on the deep epigastric artery and vein. More than 200 of Tuffier's grafts were placed in the abdominal wall and extra-peritoneally. When Pettinari resorts to transplantation as an aid in cases of hypo-ovarian function, he places the transplant on the existing ovaries, or in their vicinity. He thinks that when a graft is intra-peritoneal its surface is best free, rather than enveloped in the peritoneum.

Before being placed in its site some workers prefer that the ovarian cortex be removed. I use the entire ovary. Blair Bell[54] and Pettinari cut the ovary into fragments so as to increase the surface at expense of volume. Hunt[41] bisects the ovary, and sutures it in its bed.

In my practice I have adopted the same technic as that employed with testicular transplants[55]. The entire ovary is used, the graft being placed in the supraperitoneal space between the rectus muscle and the peritoneum. Here the transplant is gently secured in its position by the slight pressure exerted from above by the rectus abdominalis muscle, the "give" of the loose peritoneum beneath preventing any undue pressure on the implant by reason of contraction of the abdominal muscles, or from any extrinsic causes. This region is also particularly well vascularized, and the implant soon organ-

izes an ample nourishment. No sutures are used to secure the ovary in place.

Since 1920 I have performed the operation of homeo-ovarian grafting forty-four times altogether. In about twelve of these cases the operation was indicated because of symptoms of artificial menopause, due to bilateral castration in women within the cycle of genital activity. In eight cases the uterus was intact, and menstruation was re-established in three cases following the transplantation. Four other patients were at the actual menopause, but showed very strongly marked psychic symptoms. Of the other patients who received this treatment some showed mild psychic symptoms, but all showed vasomotor instability and symptoms usually observed at the time of the menopause. None of these patients had been castrated, but many were of the strongly neurotic type and all had arrived either at the actual menopause or within a short time of it. The indication for which the operation was done in these cases was to obviate the disturbances of the menopause, or at least to modify their intensity.

Of this series, thirty-six of the patients have been traced. About 60 per cent. of those with exaggerated psychic and neurotic symptoms were completely restored, showing an entire disappearance of symptoms and an excellent general state. In the other cases the symptoms were ameliorated more or less. In no case was there any untoward result from the operation, nor were there any sequelae for which the transplantation could be incriminated.

Five of the patients were re-operated on for other abdominal conditions within one to four years following the transplantation operation, affording me thereby an opportunity to examine the graft. In four of these cases the transplanted ovary was found *in situ,* but in the fifth case it could not be traced. As in cases of testicular transplantation in the same region in males, the transplant was found much diminished in size, but alive and well vascularized. The area about the transplant was partly fibrous, but with increased vascularization at the site of grafting. Unfortunately, no histological examination of the transplant was made in any case, for I did not care to disturb the implant.

From my experience I am satisfied that homogenous transplantation of ovaries is a practical surgical operation which, when executed with the customary surgical precautions, exposes the patient to little or no risk. Also, that this procedure obviates in a great measure the distressing neuropathic phenomena which accompany the actual or articifial menopause, and that it has a distinct place in surgical practice. The transplant in many instances becomes vascularized and lives, as far as can be observed, for several years and its presence has not been observed to cause any noticeable inconvenience.

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HOSPITAL CHARGES REGARDED AS NOT EXCESSIVE

A recent survey conducted by the Federal Bureau of Labor Statistics of the Department of Labor has shown that although the cost of hospital care has risen since 1913 this increase is not in proportion to the growing cost of operation nor equal to the cost of other public services.

Although there seems to be a general impression that hospitals are maintained at unreasonably high costs a careful examination of the facts indicates economy and efficiency on the part of those in charge of these institutions.

John A. McNamarry in an article, the Modern Hospital, June 28, presents figures and arguments which are instructive.

It is estimated that ten million people of the United States pass through the hospital every year. The average hospital cost is estimated to be $300, including the fees for the physician and nurse. This requires an average item of $100 per year in the family budget.

It has been shown that the average per capita cost per day in four representative hospitals in one city in the Middle West was $2.83 in 1913 and that in 1926 it had increased to $6.65. The cost for service had increased 135 per cent., while the charges had increased on the average of 66 per cent. A study of several hospitals in Pennsylvania confirmed the facts first noted.

Other forms of public service such as public schools, health and sanitary departments have shown much greater comparative costs.

There is an offset in the increased cost of hospital service as shown by a shorter average stay in hospitals at the present time as compared with that recorded several years ago.

BLOOD PRESSURE IN PERNICIOUS ANEMIA

Analysis made by Lerman and Means of the blood pressure in 500 cases of pernicious anemia showed only slight variation in the averages due to age or sex. Compared, however, with average figures for normal persons, it is significantly lower. Hypotension is a more frequent condition in pernicious anemia than in tuberculosis. It appears that in pernicious anemia hypotension is associated with an almost complete disappearance of hypertension, whereas in tuberculous patients the existence of hypotension has little effect on the frequency of hypertension. The pulse pressures in pernicious anemia are higher than the corresponding normal ones by from 9 to 17 mm. of mercury. This increased pulse pressure is apparently a feature of an increased volume flow of blood of a compensatory nature, and finally results in hypertrophy of the cardiac musculature. With improvement in the blood picture, the pulse pressure tends to diminish.—*American Journal Medical Science,* June.

Society Proceedings

ADAMS COUNTY

A regular meeting of the Society was held at the Elks' Club September 10, 1928 and preceded by a dinner served at 8:15 P. M. Thirty-four members and five visitors were present.

In the absence of the President, Dr. J. F. Ross of Golden, vice president, presided. The meeting was a surprise, honoring one of the medical veterans of the society, Dr. E. B. Montgomery of Quincy, who has enjoyed a continuous practice since his graduation from Jefferson Medical College in 1878. The first speaker, Dr. L. H. A. Nickerson, told of "Dr. Montgomery as a Competitor Fifty Years ago." He was followed by Dr. Grant Irwin, who spoke on "Dr. Montgomery as an Ethical Physician." Dr. C. A. Wells then gave a very interesting discussion on "Dr. Montgomery's Discovery of Perpetual Youth." The principal speaker of the evening was Dr. Carl E. Black of Jacksonville, a former president of the Illinois State Medical Society, who spoke at length on "Dr. Montgomery and the Changes That Have Occurred in the Profession During the Past Fifty Years." At the conclusion of these addresses, Dr. J. F. Ross, on behalf of the Adams County Medical Society, presented Dr. Montgomery with a beautiful desk-lamp and penholder as an expression of appreciation for his loyalty to organized medicine during all these years.

The secretary made a motion that Dr. C. E. Black be given a rising vote of thanks for his cooperation in making this meeting a success. Seconded and carried. Dr. Center made a motion that all the minutes of the Council and the Society since the April meeting, previously published in the *Bulletin,* be approved as published. Seconded and carried. The secretary then spoke at length concerning the advisability of establishing a medical library, and referred to the space offered by the W. C. U. Building Management as stated in the June issue of the *Bulletin.* The proposition was to establish a library without increasing the present dues of the Society, and if the space offered was accepted, it should accomplish this as there would be no expense incurred for rent.

The various editorials regarding this matter which appeared in our *Bulletin* during the last few months, were referred to. In the discussion, the Library Committee made a report approving the establishment of a Medical Library and the acceptance of the space in the W. C. U. Building, provided the present dues of the Society would not be increased. This report was made by Dr. R. A. Harris, Chairman of the Committee. Dr. C. A. Wells made a motion that the entire proposition of a Medical Library be referred with power to the library committee. Dr. Knox made a substitute motion that this committee first make their report to the Society. The substitute motion was lost and the original motion of Dr. Wells carried. The secretary made a motion that the vice-president appoint Dr. C. A. Wells, a committee of one to secure voluntary contributions to help furnish the Medical Library. Seconded and carried. The secretary presented bills totaling $27.15. These were ordered approved and a voucher drawn on the treasury to pay for same. A letter from Miss Jean McArthur, Secretary of the Educational Committee of the Illinois State Medical Society was read asking whether or not the Society approved of the establishment of an exhibit during the conference on public welfare to be held in Quincy, September 24-28. After considerable discussion, a motion was carried to lay the matter on the table. This was followed by further discussion, and motion was carried that our councilor be instructed to report in an adverse manner concerning this proposition at the councilors' meeting, to be held at Springfield on September 12.

Arrangements for the all-day October meeting were then discussed. A motion was carried that the Entertainment Committee be instructed to provide a meeting place for that meeting only and to spend no other funds other than the expenses of the speakers. This was followed by further discussion and it was the concensus of the Society that all the expense incurred by the secretary to secure the necessary publicity regarding the meeting be paid.

The meeting adjourned about 11:50 P. M.

HAROLD SWANBERG, M.D., *Secretary.*

ADAMS COUNTY

The Annual All-Day meeting of the society, was called to order at 9:30 A. M., October 15, 1928, at the Elk's by the president. The entire program was was an All-Chicago one, put on by the faculty of Northwestern University Medical School. The morning session was devoted to a Symposium on Fractures, conducted by Drs. Wm. Robert Cubbins, Harry E. Mock, and Paul B. Magnuson. These men presented various phases of the fracture problem, all being demonstrated with lantern slides. At noon, all the physicians joined with the members of the Quincy Kiwanis, Rotary, Lions, and Exchange Clubs for luncheon. There were 244 served. Dr. Baker, president of the society presided as toastmaster. All of our Chicago guests were called upon for short toasts. The principal address was given by Dr. Irving S. Cutter, Dean of Northwestern University Medical School.

At 2:00 o'clock, the scientific session was resumed with Dr. Magnuson continuing his discussion on Fractures. He was followed by an interesting talk on "The Heart and the Electrocardiogram" by Dr. James G. Carr. Dr. Allen B. Kanavel was scheduled to be on the program, but was unable to attend because of illness. His remarkable motion picture film "Infections of the Hand" was shown and discussed by Dr. Magnuson. The meeting did not adjourn until 5:45 P. M. At 6:00 o'clock, all assembled at the Elk's dining room, where a splendid banquet was served. There were 150 at the tables, many physicians bringing their wives. Dr. C. A. Wells acted as toastmaster. Drs. Irving S. Cutter, C. E. Salyer of Hannibal, Missouri, H. B. Young of Burlington, Iowa, and Harold Swanberg of Quincy were called upon for short talks. Every one then adjoined to the Elk's Lodge Hall for a wonderful motion picture demonstration, conducted by Dr. Joseph B. DeLee. These films were on various obstetrical procedures and were truly remarkable, every one being enthusiastic in regard to their beauty and remarkable instruction value. There were seven reels of these films and they consumed nearly two hours time, Dr. DeLee explaining the films from time to time as they were shown. Following the film demonstration, there was a short discussion. The meeting adjourned at 9:30 P. M. The Secretary had extended an invitation to all physicians to attend a smoker at his residence and over fifty enjoyed this hospitality.

This day was easily the most successful of our three all-day fall medical meetings. In spite of the bad weather, approximately two hundred physicians registered.

HAROLD SWANBERG, M.D., *Secretary.*

COOK COUNTY

CHICAGO MEDICAL SOCIETY

Regular Meeting, Ocober 17, 1928

Periodic Health Eexaminations—M. L. Harris, president-elect, American Medical Association.

Discussion—Gilbert Fitzpatrick, Olin West, Secretary A. M. A., Edward H. Ochsner, John M. Dodson.

Regular Meeting, October 24, 1928

1. The Role of Fungi in Occupational Skin Diseases—Cleveland J. White.

Discussion—Arthur W. Stillians, Erwin P. Zeisler.

2. Cardiac Irregularities, Their Cause, Recognition and Treatment—James G. Carr.

Discussion—Sidney Strauss, I. F. Volini.

DeKALB COUNTY

Oct. 25, 1928 the members of the DeKalb County Medical Society, their ladies and guests, assembled

for dinner at St. Mary's Hospital. Fifty were present of whom thirty-three were physicians.

Following the dinner the ladies adjourned to the reception room where the Ladies Auxiliary of the De Kalb County Medical Society was organized. The following officers were elected: president, Mrs. S. L. Anderson, De Kalb; vice-presidents, Mrs. Ben D. Mosher, Somonauk, Mrs. Dean F. Brooke, Genoa, Mrs. Robert G. Dakin, Sandwich; president-elect, Dr. Louise L. Culver, Sandwich; secretary and treasurer, Mrs. Rodney A. Wright, De Kalb; membership chairman, Mrs. E. W. Telford, De Kalb.

The physicians held their program in the basement dining hall.

The physical examination of high school students was discussed.

Dr. Floyd G. Tindall of Rockford read a very interesting paper on obstetrics. He spoke of the great advances in this science, dwelling especially on rectal analgesia. He states that painless childbirth is a misnomer, but that a great deal can be done to lessen this ordeal. A lively discussion followed the reading of Dr. Tindall's paper.

Dr. S. L. Anderson of De Kalb read a paper on the "Modern Treatment of Pernicious Anemia." Dr. Anderson presented one of his patients who was erroneously pronounced a hopeless case of cancer three years ago. Three blood transfusions gave temporary relief, but he returned to health and strength on a liver and liver extract diet. Dr. W. E. Kittler of Rochelle reported similar results in one of his cases.

A vote of thanks was given Father Solon and St. Mary's Hospital for the splendid banquet.

CLIFFORD E. SMITH,
Secretary, DeKalb County Medical Society.

MACOUPIN COUNTY

The Macoupin County Medical Society met in the Elks Club rooms, Carlinville, Illinois, Tuesday, September 25, 1928, and was called to order by President A. C. Goff of Staunton; 21 members and guests being present.

On motion the society adjourned to meet at the Ariston restaurant where an excellent banquet was served and the meeting continued.

Moved and seconded that the Committee appointed May 26, 1925 to investigate the Glacken Tuberculosis Law be discharged. Carried.

Dr. T. D. Doan was appointed toastmaster.

Senator A. S. Cuthbertson, Bunker Hill; Mr. James McWeeny, Gillespie; Judge T. A. Snell, Carlinville; Hon. Robert Whiteley, Carlinville; Dr. H. W. Smith, Roodhouse; Judge A. A. Isaacs, Gillespie; Hon. Victor Hemphill, Carlinville; were called upon and responded in cleverly given brief addresses.

Dr. J. Curtis Lyter of St. Louis gave an interesting address on "The Medical Aspect of Thyrotoxicosis."

Dr. J. R. Neal of Springfield gave an interesting address on "The Physician's Responsibility to the Public."

The Censors reported Girard as the place for the next meeting of the society. Moved and seconded that we thank Dr. J. Curtis Lyter for his excellent address on "The Medical Aspect of Thyrotoxicosis," Dr. J. R. Neal for his excellent address on "The Physician's Responsibility to the Public," Senator A. S. Cuthbertson, Mr. James McWeeny, Judge T. A. Snell, Hon. Robert Whiteley, Dr. H. W. Smith, Judge A. A. Isaacs, and Hon. Victor Hemphill, for their presence and pleasing remarks, The Elks' Club for the use of their elegant rooms, the physicians of Carlinville for their royal welcome and all others who have helped to make this meeting a success. Carried.

On motion the Society adjourned to meet at Girard in November.

TRI-COUNTY MEDICAL SOCIETY

The Tri-County Medical Society composed of Warren, Knox and Henry County Medical Societies, held the regular annual meeting at the Elk's Club, Monmouth, on Thursday, October 4, 1928. Dr. H. S. Zimmerman, president of the Warren County Medical Society, presided at the meeting. Dr. Malcolm L. Harris, president-elect of the American Medical Association, Chicago, was the first speaker and talked on "Periodic Health Examinations." Dr. Harris gave an excellent talk on this subject, discussing it from various angles and different from the usual presentations of the subject. This talk was discussed by a considerable number of those present, showing the interest the profession has in Periodic Health Examinations.

Dr. Wm. T. Coughlin, Professor of Surgery, St. Louis University School of Medicine, St. Louis, gave an illustrated talk on "Head Injuries." The subject especially pertaining to fractures of the skull, was thoroughly covered by Dr. Coughlin, and many interesting slides were shown to increase the interest of the talk. Dr. M. L. Harris opened the discussion, this being one of his favorite subjects, and he showed some very appropriate roentgenograms of cases of skull fracture. Several others including Col. Chas. D. Center of Quincy, also discussed the subject. The third speaker was Dr. J. P. Simonds, first vice-president of the Illinois State Medical Society, and professor of pathology, Northwestern University Medical School, Chicago, who held a "Clinico-Pathologic Conference," which was somewhat out of the ordinary in interesting society presentations. Dr. Simonds had mimeographed copies of case histories, clinical findings, symptoms, and treatment of a number of unusual cases, and presented pathologic specimens from each case with a complete pathologic diagnosis, these copies being passed out to those in attendance.

Dinner was served at 6:30 P. M. by caterer Hawcock, and a suitable dinner program was arranged. Dr. F. C. Winters of Monmouth acted as toast-

master. Hon. L. E. Murphy, mayor of Monmouth, gave a short address of welcome which was interesting, and consisting principally of a Lawyer's tribute to the Medical profession.

Miss Jean McArthur, Secretary of the Educational Committee, Illinois State Medical Society, was called on for a short talk on the work her committee was doing. In her usual interesting, and unassuming manner, Miss McArthur convinced the most skeptical that the $1.73 from the annual dues of each member of the Society which is used for Educational Work is money well spent.

The meeting was attended by approximately 140 physicians of Western Illinois and Eastern Iowa, some of the visitors coming nearly 150 miles. In all, about twenty counties were represented. The Tri-County Medical Society was organized ten years ago, and meets annually in Monmouth, Galesburg and Kewanee by rotation. The meeting next year will be in Kewanee with the Henry County Medical Society acting as the host Society.

CHAS. P. BLAIR, M.D., *Secretary*,
Warren County Medical Society.

Marriages

LEOPOLD BENNO BERNHEIMER, to Miss Margaret Fuller Austrian, both of Chicago, September 8.

ARTHUR THOMAS LEIPOLD, Moline, Ill., to Miss Lyla Mae Nelson of Sherrard, in Chicago, October 1.

JAMES C. MCADAMS, Kansas, Ill., to Miss Elizabeth Heiges of York, Pa., recently.

DOUGLAS SHEPPERD, Peoria, Ill., to Miss Gladys Byram of Memphis, Tenn., August 27.

Personals

Dr. Jonas C. Lyter, St. Louis, addressed the Macoupin County Medical Society, Carlinville, September 25, on "Medical Aspects of Thyrotoxicosis."

Dr. Eric A. Fennel, a graduate of the University of Cincinnati College of Medicine and the army medical school, has been appointed an associate professor in the University of Illinois College of Medicine.

Dr. Anton J. Carlson, professor of physiology, University of Chicago, will give the first Harrington lectures at the University of Buffalo, November 15-16, on "Function of the Stomach in Health and Disease."

Dr. Charles D. Humes, Indianapolis, addressed the St. Clair County Medical Society, East St. Louis, October 4, on the parkinsonian residue of encephalitis, illustrated with motion pictures and patients.

Associates and friends of Dr. Paul W. Wipperman, superintendent of the Decatur-Macon County Hospital, gave a dinner in his honor at Decatur, September 19, and presented him with a set of golf clubs previous to his departure for New Orleans to become superintendent of the Touro Infirmary.

Dr. G. Henry Mundt addressed the Kankakee County Medical Society, Kankakee, Illinois, October 8, 1928, on "The Social Aspects of the Practice of Medicine."

On October 23, 1928, Dr. G. Henry Mundt talked before the Austin Flint-Cedar Valley Medical Society (comprising the northern counties of Iowa), Iowa Falls, Iowa, on "The Social Aspects of the Practice of Medicine."

Dr. Meyer Solomon of Chicago gave an address before the Parent-Teachers association in Quincy, October 9. The medical profession entertained him at a dinner at the Elks Club, after which he discussed the question of "Anxiety Neurosis, Its Nature, Diagnosis and Management."

News Notes

—Among others, Dr. Frank Deneen, Bloomington, addressed the Schuyler County Medical Society, Rushville, August 23, on "The Goiter Heart," and Dr. George T. Palmer, Springfield, on "Early Diagnosis of Pulmonary Tuberculosis."

—The Chicago Gynecological Society was addressed by Dr. Arthur J. Cramp, director, Bureau of Investigation, American Medical Association, at the Medical and Dental Arts Club, October 19, on "Quackery in Gynecology," and by Judge Henry Horner of the probate court.

—It is reported that a woman has been calling on north side physicians, recently, giving symptoms of gallstone colic in order to obtain morphin and paying by check for more than the amount charged. The checks have been found to be worthless.

—At the October 11 meeting of the Chicago Roentgen Society, Virginia Hotel, Dr. Bernard H. Nichols, Cleveland, discussed "Roentgenologic Examination to Determine Causes of Pain in the Upper Right Abdominal Quadrant," and Dr. Benjamin H. Orndoff, "Impressions from the International Congress."

—At a recent meeting of the Du Page County Medical Society, Elmhurst, Dr. James Hubert Skiles, Oak Park, spoke on "Antepartum and Postpartum Hemorrhage," and Dr. Walter L. Migely, Naperville, on "Treatment of Bronchial Asthma With Ephedrine."

—The Kankakee Medical Society opened new club rooms on the second floor of the Arcade Building, September 27. Physicians throughout the county were invited to the opening. The quarters are commodious and artistically decorated. There is an assembly room with equipment for illustrated lectures, a kitchenette, a reading room and a library. The Kankakee Medical Society has been organized about ten years. The president this year is Dr. George E. Irwin.

—The recently dedicated addition to the Swedish Covenant Hospital, Chicago, adds 200 beds to its capacity, with greatly increased facilities, at a cost of $450,000.

—The Pasteur statue near the Field Museum in Grant Park, Chicago, was unveiled, October 27, by Mlle. Reine Claudel, daughter of Paul Claudel, French ambassador to the United States. Dr. Frank Billings, chairman of the memorial committee, presided at the dedication. At the banquet at the Drake Hotel in honor of the ambassador in the evening, Vice-President Dawes was toastmaster and addresses were given by the ambassador, by Dr. W. A. Pusey, Dr. Ludvig Hektoen, Professor Gordon J. Laing and others.

—The program of Jackson Park Branch meeting, October 18, was given by the department of medicine, University of Chicago. Members taking part were Drs. S. W. Becker, Clark Finnerud, Louis Leiter, Chas. L. Mix, Franklin McLean, and W. W. Hamburger.

—The Chicago Urological Society, October 25, held urological clinics and demonstrations at Cook County Hospital in the morning. In the evening Dr. F. E. B. Foley of St. Paul gave an address on "Cystoscopic Excision of the Prostate," Dr. I. J. Shapiro discussed "Congenital Polycystic Kidney," and Dr. V. J. O'Conor, "Uterocele."

—At the meeting of the council of the Chicago Medical Society, Dr. Fred L. Glen of the advisory committee to Dr. Kegel reported that Dr. Kegel, health commissioner, desired to put on an intensive campaign to immunize all children by giving them toxin-antitoxin. The school children will be given slips requesting that they go to their family physician to have this administered. The hope is expressed that the family physicians will respond so that it will not be necessary for the school doctors to do this work.

—North Side Branch Chicago Medical Society features the following popular lectures given at Academy of Sciences in Lincoln Park: October 28, "More Hopeful Features of Heart Disease," Dr. James B. Herrick; November 11, "Plastic Surgery," F. B. Moorehead; November 25, "What the Medical Profession Is Doing for the Public," M. L. Harris; December 9, "New Knowledge of Cancer," J. P. Simonds.

—South Side Branch Chicago Medical Society program for November 9 featured "The Diphtheria Situation in Chicago," by Dr. Arnold H. Kegel; "Types and Symptoms of Diphtheria," Robert A. Letourneau; "Complications and Treatment of Diphtheria," Archibald L. Hoyne; "Technique of Administration of Toxin-Antitoxin," Arthur G. Bosler.

—The Chicago Gynecological Society held its Fifty-first Annual Dinner in honor of Dr. Rudolph Holmes and Dr. Henry F. Lewis at the Chicago Medical and Dental Arts Club on Friday, October 19, 1928.

Officers elected for the ensuing year: Wm. M. Thompson, president; Carl Henry Davis, first vice-president; O. S. Pavlik, second vice-president; Sydney S. Schochet, secretary; Chas. B. Reed, treasurer; Mark T. Goldstine, pathologist; Carey Culbertson, editor.

—The Radiological Society of North America wishes to announce its annual meeting to be held at the Drake Hotel, Chicago, Illinois, December 3 to 7, inclusive. All physicians are cordially invited. Something of interest has been prepared for physicians in every specialty. Make your reservations early through F. J. Ronayne, West Suburban Hospital, Chicago, Illinois.

—The project of a medical university center, started eighteen years ago by such well known figures as Dr. Samuel Lambert, Dr. Joseph A. Blake and Dr. Theodore Janeway, is now nearing completion. The Medical Center, New York, was dedicated to the service of humanity and the progress of science on October 12 before

many thousands of invited guests. During the spring and summer there have been a succession of removals and openings at the Medical Center. This ceremony marked the beginning of the united effort as a teaching and research combination. Following the dedicatory services inspection of the College of Physicians and Surgeons, the Vanderbilt Clinic and the School of Dental and Oral Surgery was made. Visitors were not admitted to the Babies Hospital, the Neurological Institute or the New York State Psychiatric Institute and Hospital as they are still in the hands of the builder. January 1 is the tentative date made for the occupancy of these buildings.

A Councillors' meeting of the Physicians and Surgeons of the Eighth District was held at the U. S. Grant Hotel in Mattoon, Illinois, Thursday afternoon, October 25, after a clinic by the local men at the Mattoon hospital in the morning. Dr. Harold M. Camp, secretary of the State Society, and Dr. Carl Hedblom, Professor of Surgery of the University of Illinois Medical School, were the speakers. There were fifty-three men present and the talks by Drs. Camp and Hedblom were very instructive and much appreciated. Dr. Camp speaking on the practical workings of the Illinois State Medical Society, and Dr. Hedblom on the diagnosis of Acute Abdominal conditions. It was one of the most valuable meetings every held in the district.

Deaths

Abram Walter Askins, Findlay, Ill.; Barnes Medical College, St. Louis, 1899; member of the Illinois State Medical Society; aged 56 was found dead in bed, September 16, of heart disease.

R. M. Charles Ball, Monmouth, Ill.; Missouri Medical College, St. Louis, 1879; aged 77; died, September 14, of intestinal obstruction and heart disease.

Oscar Ellis Chase, Chicago; University Michigan Medical School, Ann Arbor, 1899; member of the Central States Pediatric Society; formerly clinical instructor in pediatrics, Rush Medical College; aged 57; died, September 16, of gangrenous appendicitis.

John Werner Crenshaw, Chicago; University of Virginia Department of Medicine, Charlottesville, 1875; aged 80; died, September 8, at Cloverport, Ky., of heart disease.

Grover John Diesel, Millstadt, Ill.; St. Louis College of Physicians and Surgeons, 1906; member of the Illinois State Medical Society; served during the World War; aged 45; died, September 4, of cerebral hemorrhage.

John Jay Encke, Aurora Ill.; University of Michigan Medical School Ann Arbor 1883; aged 78; died February 6 of cerebral hemorrhage.

George Sylvanus Gould, Lostant, Ill.; Rush Medical College, Chicago, 1896; aged 60; died, September 21, at St. Mary's Hospital, La Salle, of heart disease.

John Hamilton, Newton, Ill.; Barnes Medical College, St. Louis, 1901; member of the Illinois State Medical Society; aged 62; died, September 24, at the Olney (Ill.) Sanatorium, following an operation for acute appendicitis.

Jacob Snyder Kauffman, Chicago; Rush Medical College, Chicago, 1875; aged 74; died, August 7, of angina pectoris.

Judson H. Long, Moline, Ill.; Marion-Sims College of Medicine, St. Louis, 1896; member of the Illinois State Medical Society; aged 58; on the staff of the Moline City Hospital, where he died, September 26, following an operation for gastric ulcer.

Robert Christian Poos, Okawville, Ill.; American Medical College, St. Louis, 1884; member of the Illinois State Medical Society; aged 71; died, September 18, of acute myocarditis.

Albert Wilkin Slaughter, Paris, Ill.; Louisville (Ky.) Medical College, 1904; member of the Illinois State Medical Society; served during the World War; aged 48; died, September 25, of hemorrhage due to gastric ulcer.

Loyal Tyler Sprague, Peoria, Ill.; Medical Department of the University of the City of New York, 1876; also a druggist; aged 75; died, September 10, of pneumonia.

William George Unland, Berwyn, Ill.; Hahnemann Medical College and Hospital, Chicago, 1871; aged 82; died, August 6, of ascending paralysis.

Fred C. Walker, Peoria, Ill.; Chicago College of Medicine and Surgery, 1910; aged 48; was killed, September 11, at Plymouth, Ind., when the automobile in which he was driving was struck by a train.

George J. Wilder, Chicago; University of Michigan Medical School, Ann Arbor, 1877; aged 80; died, September 11, of carcinoma of the prostate and uremia.

Edward Clark Winans, Chicago; Medical Department of the University of Illinois, Chicago, 1899; aged 58; on the staff of the Illinois Central Hospital, where he died, August 8, of myocarditis and nephritis.

Lathy L. Yerkes, Alton, Ill.; Medical Department of Washington University, St. Louis, 1904; member of the Illinois State Medical Society; formerly on the staff of St. Joseph's Hospital; aged 51; died, September 15.

Philo Bierce Conant, Roseville, Ill.; College of Physicians and Surgeons, University of Illinois, 1902; member of the Illinois State Medical Society, past president of the Warren County Medical Society, president of the high school board; aged 51; died, September 26, at his home of chronic interstitial nephritis.

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